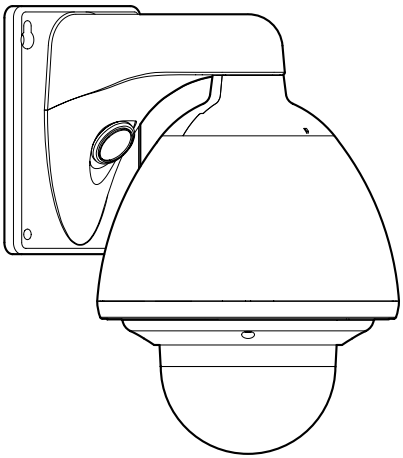
JVC

OUTDOOR PTZ IP DOME CAMERA

VN-V686WPU

INSTRUCTIONS (A)



Thank you for purchasing this product.
Before beginning to operate this unit, please read the instruction manual carefully in order to make sure that the best possible performance is obtained.

For Customer Use:

Enter below the Serial No. which is located on the body.

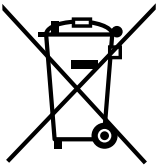
Retain this information for future reference.

Model No. VN-V686WPU

Serial No. _____

LST0677-001C

Safety Precautions



Attention:
This symbol is only valid in the European Union.

Information for Users on Disposal of Old Equipment

[European Union]

This symbol indicates that the electrical and electronic equipment should not be disposed as general household waste at its end-of-life. Instead, the product should be handed over to the applicable collection point for the recycling of electrical and electronic equipment for proper treatment, recovery and recycling in accordance with your national legislation.

By disposing of this product correctly, you will help to conserve natural resources and will help prevent potential negative effects on the environment and human health which could otherwise be caused by inappropriate waste handling of this product. For more information about collection point and recycling of this product, please contact your local municipal office, your household waste disposal service or the shop where you purchased the product.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

(Business users)

If you wish to dispose of this product, please visit our web page www.jvc-europe.com to obtain information about the take-back of the product.

[Other Countries outside the European Union]

If you wish to dispose of this product, please do so in accordance with applicable national legislation or other rules in your country for the treatment of old electrical and electronic equipment.

FOR USA AND CANADA

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK. DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash wish arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Information for USA

This device complies with part 15 of the FCC Rules. Changes or modifications not approved by JVC could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1)This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Due to design modifications, data given in this instruction book are subject to possible change without prior notice.

INFORMATION (FOR CANADA)
RENSEIGNEMENT (POUR CANADA)

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil num rique de la Class A est conforme á la norme NMB-003 du Canada.

WARNING (FOR EUROPE):

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

- This installation should be made by a qualified service person and should conform to all local codes.
- This installation shall be in accordance with the National Electrical Code, ANSI/NFPA 70.
- The unit is to be powered by an AC 24 V power supply.

  The AC 24 V power supply should conform to the following:Class 2 only(For USA),Isolated power supply only(For Europe and other).
- Any Mention in this manual of Alarm inputs/ outputs have not been evaluated by UL to be used for Burglar Alarm Functionality.

FOR USA-California Only
This product contains a CR Coin Cell Lithium Battery which contains Perchlorate Material - special handling may apply.
See
www.dtsc.ca.gov/hazardouswaste/perchlorate

Dear Customer

This apparatus is in conformance with the valid European directives and standards regarding electromagnetic compatibility and electrical safety.

European representative of Victor Company of Japan, Limited is :
JVC Technology Centre Europe GmbH
Company name changed in:
JVC Technical Services Europe GmbH
Postfach 10 05 04
61145 Friedberg
Germany

Sehr geehrter Kunde, sehr geehrte Kundin, dieses Gerät stimmt mit den gültigen europäischen Richtlinien und Normen bezüglich elektromagnetischer Verträglichkeit und elektrischer Sicherheit überein.

Die europäische Vertretung für die Victor Company of Japan, Limited ist:
JVC Technology Centre Europe GmbH
Firmenname geändert in:
JVC Technical Services Europe GmbH
Postfach 10 05 04
61145 Friedberg
Deutschland

These are general IMPORTANT SAFEGUARDS and certain items may not apply to all appliances.

IMPORTANT SAFEGUARDS

1. Read all of these instructions.
2. Save these instructions for later use.
3. All warnings on the product and in the operating instructions should be adhered to.
4. Unplug this appliance system from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use attachments not recommended by the appliance manufacturer as they may cause hazards.
6. Do not use this appliance near water - for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.
7. Do not place this appliance on an unstable cart, stand, or table. The appliance may fall, causing serious injury to a child or adult, and serious damage to the appliance.

   PORTABLE CART WARNING
   (symbol provided by RETAC)

   S3125A

   Use only with a cart or stand recommended by the manufacturer, or sold with the appliance. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer. An appliance and cart combination should be moved with care.

   Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
8. Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to insure reliable operation of the appliance and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the appliance on a bed, sofa, rug, or other similar surface.

   This appliance should never be placed near or over a radiator or heat register. This appliance should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.
9. This appliance should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company. For appliance designed to operate from battery power, refer to the operating instructions.
10. For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
11. Do not allow anything to rest on the power cord. Do not locate this appliance where the cord will be abused by persons walking on it.
12. Follow all warnings and instructions marked on the appliance.
13. Do not overload wall outlets and extension cords as this can result in fire or electric shock.
14. Never push objects of any kind into this appliance through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the appliance.
15. Do not attempt to service this appliance yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
16. Unplug this appliance from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power cord or plug is damaged or frayed.
    b. If liquid has been spilled into the appliance.
    c. If the appliance has been exposed to rain or water.
    d. If the appliance does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the appliance to normal operation.
    e. If the appliance has been dropped or the cabinet has been damaged.
    f. When the appliance exhibits a distinct change in performance - this indicates a need for service.
17. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
18. Upon completion of any service or repairs to this appliance, ask the service technician to perform routine safety checks to determine that the appliance is in safe operating condition.

Contents

This manual contains the detailed instructions for using the VN-V686WPU camera.

Please refer to [START-UP GUIDE] for description on the general usage of VN-V686WPU.

For the latest information, please refer to the "Readme" file in the CD-ROM supplied with this product.

- The supplied CD-ROM includes [INSTRUCTIONS] (this manual) (pdf), [API Guide] (pdf), [VSIP Guide] (pdf) and [Search tool].

Features

Waterproof and weather-resistant chassis

The anti-dust and drip-proof structure will shield the unit from rain, thus enabling it to be installed outdoors directly. (IP66 specifications)

Realizing a High Picture Quality

This product uses high resolution 410,000 pixels CCD and a new digital image processing IC to achieve high resolution and image quality.

Long Magnification Zoom Lens

The optical 36 times long magnification lens allows you to conduct detailed monitoring. The high power and large focal ratio F1.6 (WIDE edge) and bright zoom lens realize 1.0 Lux (AGC SUPER, 50 %) high sensitivity during color mode.

Equipped with high precision high speed rotation platform

The newly developed direct drive rotation platform rotates at a high speed of 400°/s both horizontally and vertically, thus allowing the camera to move to the preset positions quickly. As it does not have a slowdown mechanism, it is very durable, has a high stopping accuracy and can rotate smoothly even at low speed.

Dual Stream Full Frame Rate Transmission

Dual stream (JPEG, MPEG4) data transmission is possible in VGA size at a rate of 30 fps.

Support for Multicast

This product supports multicast, which enables transmission of image data to multiple computers on the network without lowering the frame rate.

Built-in Web Server

You can configure the picture quality and communication settings using the Internet Explorer.

HTTP-based API

This product comes with HTTP-based API. This feature enables you to perform setting and control via the network.

Day/Night surveillance

This product is equipped with infrared filter mechanism for day/night surveillance. During low illuminance such as nighttime, switching out the infrared filter will switch the product to high sensitivity mode (B&W).

Privacy Mask function

This function allows you to Blankout areas that you do not wish to display in the location to be recorded.

Automatic Tracking function

This product is equipped with a function that easily tracks moving objects when home position is displayed.

Intelligent Tracking function

This function allows you to track the color information of objects that are clicked with a mouse. The object can be tracked while the camera automatically adjusts to the optimal zoom ratio.

Image Stabilizer

This function detects camera shaking and reduces image shaking.

Motion Detection Feature

This feature enables output of an alarm upon detection of motion in the video image within preset area. Pre-/Post-recorded JPEG image files can be sent to FTP server by the alarm.

Built-in JPEG and MPEG4 Viewer

Monitoring of JPEG and MPEG4 images via a computer is possible by downloading Built-in Viewer onto the computer.

Compatibility with analog peripheral equipment

The shape of this product is the same as analog CCTV monitoring cameras and can be used with other peripheral equipment such as brackets.

Progressive Output

This function realizes high picture quality of moving objects by fixing combing noise on the contour of the objects.

VSIP

This product is equipped with the VSIP protocol from Verint Systems Inc. This product has interoperability with the Nextiva system from Verint.

- Before starting an important recording, be sure to perform a test recording in order to confirm that a normal recording is possible.
- We do not accept liability for the loss of a recording in the case of it becoming impossible to record due to a problem in the video camera, VTR, hard disk recorder or video tape.
- The Automatic Tracking function, Intelligent Tracking function and Motion Detection function are simple functions and cannot be used as a substitute for a security alarm. JVC shall not be liable for any inconveniences or damages caused in the event of error detection or when these functions cannot be detected. We shall not be liable for any inconveniences or damages caused as a result of operational failure for alarm input/ output.

How to Read this Manual

■ Symbols used in this manual

Note : Describes precautions concerning the operation of this product.

Memo : Describes reference information, such as functions and usage restrictions of this product.

☞ : Indicates the reference page numbers and reference items.

■ Contents of this manual

- Design, specifications and other contents described in this manual are subject to change for improvements without prior notice.

Safety precautions

Mounting to a firm place

As the unit rotates at high speed, mount it on a firm place with sufficient strength to support the vibration and weight of the unit (approx. 5.5 kg).
If the strength is weak, the vibration will cause fuzzy images on the monitor screen. In the worst scenario, the camera may even fall off and hit somebody, resulting in serious accidents.

Mounting the camera correctly with the designated clamping brackets

Always use the designated clamping brackets. Be sure to connect the fall prevention wire and tighten the fixing screws or nuts securely.

Using the correct power and voltage

The rated power of this product is AC 24 V, 50 Hz/60 Hz. Supplying a power beyond the rated value may result in failures and in the worst scenario, smoking and fire.

This unit is able to divert lightening conduction to itself and the connecting cables to a certain extent but this is not 100 % guaranteed. For installation locations that are likely to suffer lightening strikes, be sure to take appropriate measures such as adding arrestor to the connecting cables.

Consult your dealer as special technique is required when installing this product. Ensure that the fixing screws or nuts are tightened securely, otherwise, the unit may fall off.

Inspect the unit regularly.

Screws may be loosened due to vibration or deterioration of the mounting section. Perform regular inspections for loosened screws and check whether there is any danger of the unit falling off.

Do not hang on this product, shake it, or hand objects over it. Applying an excessive load may cause the product to fall off and result in accidents.

Do not modify this product. It may result in accidents.

Operating Environment

Recommended Computer Specifications

OS : Windows XP (Professional or Home Edition) (SP2)

CPU : Pentium4 1.5 GHz or higher

Memory capacity: 1 GB and above

Free hard disk space

: 512 MB or more

Display and video card

: 1024 × 768 pixels or higher, True Color (24 or 32 bits) VRAM 8 MB or more (256 MB and above recommended)

Web browser : Internet Explorer Version 6.0

LAN Environment

- 10BASE-T/100BASE-TX network interconnected using devices such as an IEEE802.3-compliant switching hub.
- IGMPv2-compliant network when multicast is in use.

Memo:

- The above PC specifications are guides for smooth use of the applications, and not a guarantee of their operation.
- Depending on the condition of use, applications may not run smoothly even when the user's computer meets the specification requirements.
- Using a computer for which its performance does not meet the requirements may cause the JPEG playback frame rate to deteriorate. In addition, it also causes delay in the MPEG4 playback images, and may result in interruption in playback.
- To make use of Built-in MPEG4 Viewer of VN-V686WPU, install "ffdshow" that is open source codec. You can download "ffdshow" from the Internet.

Precautions

Maintenance and operating environment

- This product is specially designed to be mounted on walls. Be sure to place the camera head horizontally. The product will not work properly if it is tilted.
- Do not place this product in the following environments.

  It might result in malfunctions or failure.
  - Hot or cold locations beyond the surrounding temperature range of -40 ℃ to 50 ℃.
  - Locations beyond the allowable operating humidity range of 20 % to 90 % (without condensation)
  - Near equipment that emits strong magnetic fields, such as transformers or motors.
  - Near equipment that emits radio waves, such as transceivers and mobile phones.
  - Locations with excessive dust and sand.
  - Locations that are subject to vibration such as inside the car or ship.
  - Locations prone to moisture such as window side.
  - Locations subject to steam or oil, such as kitchens.
  - Special environment, such as those with combustible atmosphere
  - Locations that emit radiation, X-rays, salt attack or corrosive gases.
  - Locations where medicine is used such as pool.
- When using in a low temperature (-40℃ to -20℃) environment, images may not be available for a maximum of 2 hours until the built-in heater has warmed up. It is recommended to always turn on the electricity for the unit under a low temperature environment.
- Use of this product and cables connected to this product at locations where strong electric waves and magnetic waves are generated (e.g., near radio, TV, transformer, monitor, etc.) may cause noise interferences in the images or changes in the color.
- Inadequate heat ventilation may result in malfunction of this product. Be sure not to block vents around the product. This product discharges heat from the surface of the camera unit.
- Do not install it at locations directly subjected to cold air such as near the vents of air-conditioners or at locations with high temperature. Condensation may occur inside the dome cover.

Saving Energy

- When the camera is not in use for a long time, turn off the power of the system for safety and energy conservation reasons.

Others

- Do not subject the lens to strong light source such as sun rays. This may cause the equipment to malfunction.
- This camera comes with a built-in AGC circuit. The sensitivity increases automatically at a dark place and the screen may appear grainy. This is not a malfunction.
- While AGC is activated, if a transceiver which causes strong electromagnetic wave is used near the camera, the picture may suffer from beat. Please use the camera more than three meters away from such transceivers.
- When automatic iris is selected, the Iris Control button may not work depending on the brightness of the screen (when the amount of light is not sufficient). In this case, set the iris to Manual.
- When automatic iris is selected and AGC is ON, even if the iris setting can be changed with the Iris Control button, the Sense Up function will be enabled and the brightness of the screen may not change. In this case, set AGC to OFF or set the iris to Manual.
- When this camera is used in the White Balance "ATW-Narrow", "ATW-Wide" (automatic adjustment) mode, the color tone may differ slightly from the actual color due to the principle of the automatic tracking white balance circuit. This is not a malfunction.
- If a high luminance object (such as a lamp) is shot, a white smear may appear at the upper and lower ends of this object on the screen. This phenomenon (smear) is characteristic of solid-state image sensors and is not a malfunction.
- Do not touch the dome cover with your hands. Dirty covers will cause image deterioration.
- Do not subject the dome cover to strong impact. It may result in damage and water seepage.
- The dome cover may fog due to the drastic change of temperature when humidity is high.
- Do not connect an AC 24 V cable to AC110 V/AC 230 V power supply. The camera internal circuit will be damaged. Do not use the camera. Bring it to your nearest JVC dealer for repair (charged separately).
- To supply AC 24 V, use a AC 24 V supplying power unit that is insulated from AC 110 V /AC 230 V line.
- When using multicast, make use of a IGMPv2-compliant network switch.
- Some hubs/switches of products that are equipped with intelligent features may include a broadcast/multicast suppression function. Viewing of multicast images on this product may fail if this function is enabled.
- The electronic shutter of this product is set to 1/60 by default. For regions with a commercial power supply frequency of 50 Hz, switch to the 1/100 during use under fluorescent lights (excluding inverter lighting equipment) to prevent flickers.
- When the B&W mode is set to "Auto", the image turns black-and-white in a dark location. As the sensitivity level is increased in this case, the screen may appear grainy and more white spots may appear. When switching between color and black-and-white images, the brighter area on the screen is emphasized, which may reduce the visibility. However, this is not a malfunction.
- If the power supply voltage is momentarily cut off or reduced due to lightning or turning on of the air conditioner's power, the image may be disrupted or noise interference may occur.
- As the dome cover is of a semiglobular shape, image distortion will occur at the hemispherical edge. When the hemispherical edge of this unit is masked and horizontal level is shot in a tilt direction, the hemispherical edge will enter the field angle. This may cause the upper edge of the screen to become black and the focus unclear. In this case, you can avoid shooting the above area by using the tilt limit settings (☞ Page 58).
- When shooting objects with a luminance difference or near a light source, ghost may occur on the screen. This is a feature of the dome cover and the built-in lens, and is not a malfunction.
- In particular, manual and auto pan operation near the TELE edge (telephoto side) may cause the screen to vibrate (unsmooth rotation). This is a feature of the motor and is not a malfunction.
- Long magnification zoom lens embedded into this product. Although the focus might be slightly unclear depending on the drastic change of temperature, it will not be a malfunction.
- When you preset focus, we ask you to adjust under actual usage temperature. If you feel unclear focus, please re-preset focus.
- Additionally, we recommend you to use either One Push AF or Manual focus adjustment when you feel unclear focus at your temperature environment.

Disclaimer

- The Automatic Tracking, Intelligent Tracking and Motion Detection features do not prevent theft or fire. Our company shall not be liable for any inconveniences or failures that occur.
- We shall not be responsible for any inconveniences or disturbances caused in the event of privacy invasion as a result of camera footages of this product.

Precautions (continued)

Transporting the unit

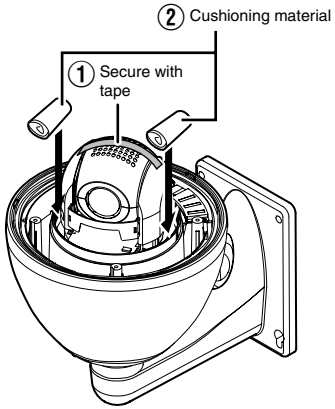
- Remove the connecting cables when transporting the unit.
- When transporting the unit, turn off the power of the system.
- Pack the unit with cushioning material so as to avoid shock when transporting.
- Handle the unit with care and do not subject it to vibration or shock.

Transportation

- Do not throw away the original box of the unit. Keep it and use it for transporting the unit in future.
- As the camera unit is of an easily rotatable structure, secure the camera unit inside the dome cover such that it does not rotate before transporting. Otherwise, an error may occur during camera operation.

  ①Face the heat release vents upward and secure the lens section with tape.

  ②Insert cushioning material wrapped with air caps (approx. 50 mm x 200 mm) at two opposite sides of the camera.



Copyright Protection

- With the exception of the user being the copyright holder or when permission such as for duplication has been granted by the copyright holder, permission is required in principle for the duplication, modification, or transmission of copyrighted video and audio data.
  Unauthorized duplication, modification, or transmission of copyrighted material may constitute a copyright infringement, and the user may be liable to compensate for any damages. When using copyrighted video/audio data, be sure to check the license agreement of the copyrighted material thoroughly.
  When rights or rights holders are involved with regard to the targeted duplicating subject, permission may be required for shooting or using (processing) it. Be sure to check the licensing conditions thoroughly.

Maintenance

- Turn off the power before performing maintenance.
- Wipe using a soft cloth.
  Wiping with thinner or benzene may melt or tarnish its surface. For tough stains, wipe using a cloth that is dipped into a neutral detergent diluted with water, followed by wiping with a dry cloth.
- When the same position is monitored for 24 hours continuously over a long period, the increased contact resistance on the horizontal rotation section may cause noise interferences in the images and operation from the computer may become unstable. As such, this product is equipped with an auto cleaning function that performs cleaning once a week.

■ Consumable parts

The following are consumable parts. They must be replaced once they reach their lifetime.
The lifetime is only an estimation and differs according to the usage environment and conditions. Replacement of consumable parts is chargeable within the guarantee period.

- Zoom lens assembly

  Zoom operation ..... Approx. 2 million operations
  Focus operation..... Approx. 4 million operations
- Slip ring..... Approx. 5 million operations
- Cooling fan..... Approx. 50,000 hours
- Heater relay ..... Approx. 100,000 times
- Heater fan ..... Approx. 50,000 hours

■ Auto Focus

This unit is equipped with One Push Auto Focus and Easy AF Auto Focus functions. However, depending on the object and the camera setting, it might be out of focus. In this case, please adjust the focus manually.

- Objects which are difficult to be focused automatically
  - When the brightness of the image plane is extremely high (bright).
  - When the brightness of the image plane is extremely low (dim).
  - When the brightness of the image plane is constantly changing (for example, a blinking light).
  - When there is almost no contrasts.
  - When there are repetitive vertical striped patterns on the image plane.
- Auto Focus is difficult to set under the following conditions
  - When sensitivity is increased with AGC and the screen is grainy.
  - When there is less movement on the screen due to the Sense Up function.
  - When there is no contour element in electronic zoom.

■ Zoom Operation

The following phenomena are the result of the built-in lens performance and are not malfunctions.

- When manual operation or preset is selected, focus moves slightly after the zoom operation has stopped near the TELE edge.
- Manual zoom operation is not smooth.
- When Preset is selected, the camera becomes out of focus for an instant during zooming.

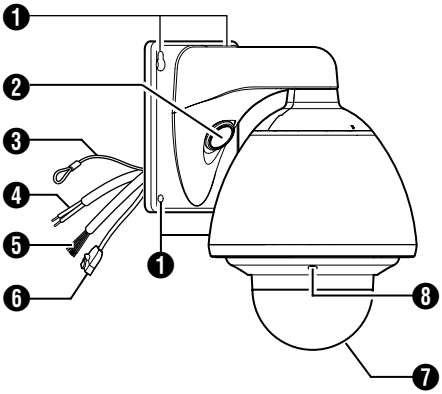
■ Preset Positions

The total number of preset positions that can be set in this unit is 100, including the home position and 99 preset positions.

Name and Function of Parts

Camera

■ Front side



1 Camera securing hole (4 locations)

This hole is used for mounting the camera on the wall.

2 Cable connecting hole, cap

Remove the cap and pull out the cables from this hole for connection.
(☞ Page 17)

3 Fall Prevention Wire

Connects the camera to the wall. Secure the camera tightly to the anchor bolts used to mount the fall prevention wire on the wall. (☞ Page 18)

4 AC24V Power Cable

Connects the camera to AC24V power. (☞ Page 20)

5 Alarm Input/Alarm Output Cable (x8)

This cable is for alarm input and alarm output.
(☞ Page 22)

Cable color	Signal Name
Brown	Input 1
Red	Input 1 (COM)
Orange	Input 2
Yellow	Input 2 (COM)
Green	Output 1
Blue	Output 1 (COM)
Purple	Output 2
Gray	Output 2 (COM)

6 LAN Cable

This connects the unit to the network.
(☞ Page 22)

7 Dome Cover

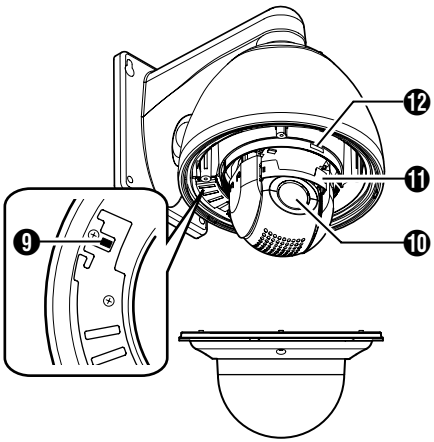
The dome cover is a delicate object. Handle it with care.

Note:

- It is covered with a protective sheet during shipment. Do not remove this sheet until installation is complete.

8 Dome Cover Fixing Screws (x4)

■ Inner structure of camera



⑨ Heater ON/OFF Switch

This is the automatic control ON/OFF switch of the built-in heater.
The built-in heater prevents the dome cover from fogging and snow or frost from attaching to the dome cover. When installing the heater at an unrequired location, turn off the switch of the heater. It is usually set to ON. (☞ Page 17)

⑩ Lens

Lens cannot be replaced.

⑪ Front Mask

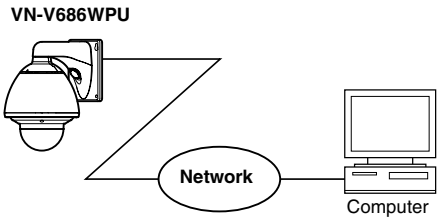
⑫ [MAC address] indication

The MAC address is a unique physical address of the product. This address cannot be altered.

Features

Surveillance Using Built-in Viewer

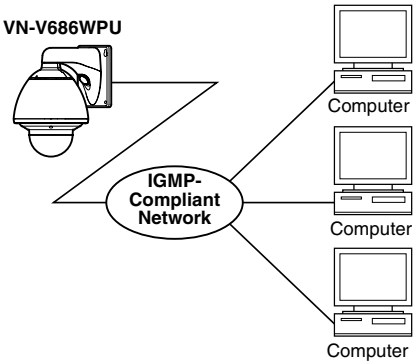
VN-V686WPU comes with a Built-in ActiveX JPEG Viewer and MPEG4 Viewer.
JPEG images and MPEG4 images of VN-V686WPU can be monitored using the computer by installing this Built-in Viewer on the computer. JPEG images that are currently displayed can also be captured in the computer's hard disk.
"Built-in Viewer" (☞ Page 91)



VN-V686WPU accepts requests from 20 clients at maximum.

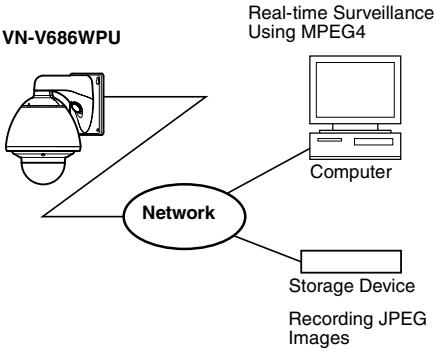
Monitoring via Multicast

Multicast enables monitoring of JPEG and MPEG4 images on multiple computers.
"Streaming Page" (☞ Page 70)
"JPEG Viewer Configuration" (☞ Page 96)
"MPEG4 Viewer Configuration" (☞ Page 101)



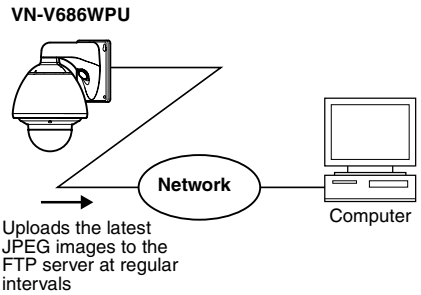
Surveillance via Dual Stream

Simultaneous distribution of JPEG and MPEG4 images enables real-time surveillance using MPEG4 (30 fps) and recording of JPEG images at the same time. You can also lengthen the recording time by lowering the frame rate, resolution, and picture quality settings for JPEG images.



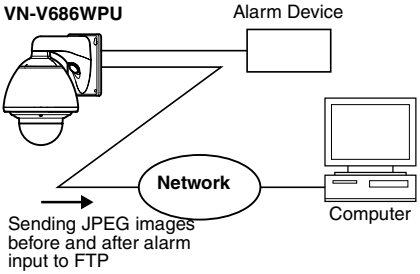
Saving JPEG images to the FTP server at regular intervals

JPEG images may be uploaded to the FTP server at regular intervals.
"FTP" (☞ Page 51)



Alarm

VN-V686WPU comes with a motion detection feature and dual alarm input.
By motion detection or alarm input, actions such as mail delivery, message transmission via TCP/UDP, alarm output, turning to preset position, changing B&W mode can be triggered. These actions can also be triggered by combination of two alarm inputs.
Installing an FTP server enables uploading of JPEG images before and after the alarm input time (pre-/post-recording) to the server.
"Alarm Page" (☞ Page 46)
"JPEG Viewer Configuration" (☞ Page 96)



Restrictions on Clients

VN-V686WPU enables users to authorize or reject the acquisition of images by specific IP address.
(☞ Page 72)

Control via customized application software

The following uses are also possible by developing a customized application software that supports the API of VN-V686WPU.
For details, please refer to [API GUIDE] in the supplied CD-ROM.

- Monitors via the computer while at the same time records images to the HDD of the computer.
- Performs recording by changing the frame size/frame rate during alarm occurrence.
- Records the type and time of alarm occurrence on the computer.

Camera Mounting Procedures

Mount the camera using the following procedures.

Step 1 Connection/Installation (☞ Page 16)

Setting Up the Wall (☞ Page 16)
- Make holes in the wall
- Install anchor bolts on the wall

Setting Up the Camera (☞ Page 16)
- Remove the dome cover and remove the cushioning material
- Heater ON/OFF Switch Setting
- Mount the dome cover

Mounting the camera (☞ Page 18)
- Install the fall prevention wire (connect the wall and the camera)
- Secure the camera with anchor bolts

Cable Connection (☞ Page 18)
- Connection of cables
- Close the cap
- Waterproof treatment

▽

Step 2 Network settings (☞ Page 26)

Configure the network settings of the computer and this camera.

※ In a system where multiple units of VN-V686WPU are used, turn on the power of only one unit to configure the IP address settings using the Internet Explorer. Upon doing so, turn on the power of the second unit and configure accordingly. Configure the settings for the other cameras using the same procedure.

▽

Step 3 Configuring settings using the Internet Explorer (☞ Page 32)

Configure the picture quality and alarm settings using the Internet Explorer.

▽

Step 4 Operating Built-in Viewer (☞ Page 91)

Built-in Viewers enable you to monitor JPEG and MPEG4 images and save JPEG images.

Mounting the Camera

Setting Up the Wall

Be sure to put on protective glasses to protect your eyes from falling objects when mounting the camera.

1 Make holes in the wall

Make holes (ø 45 mm) for the connecting cables to pass through.

Note:

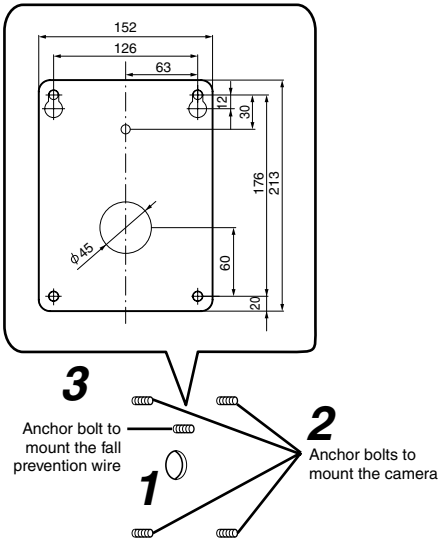
- Check the strength of the wall. A less firm wall may cause the unit to fall.

2 Install the anchor bolts for mounting the camera

Install 4 anchor bolts (M8 × 35 mm and above) to mount the camera.

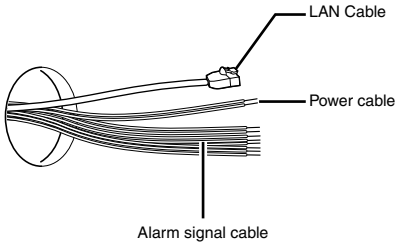
3 Install the anchor bolt for mounting the fall prevention wire

Install the anchor bolt (M8 × 35 mm and above) to mount the fall prevention wire 30 mm below the center of the upper two anchor bolts that are used to mount the camera.



4 Pull the cables from the hole in the wall

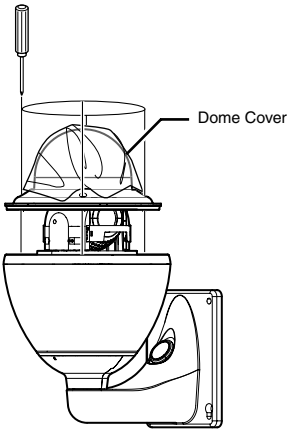
Pull the power cable, LAN cable and alarm signal cable from the wall.



Setting Up the Camera

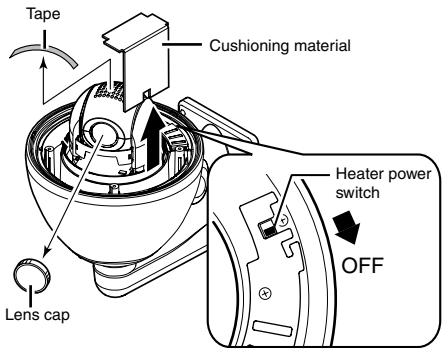
1 Remove the dome cover

Loosen the screws (x4) and remove the dome cover from the camera.



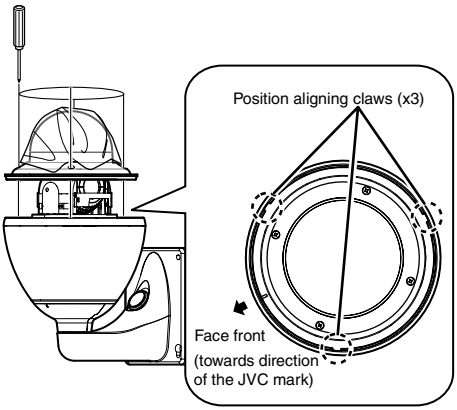
2 Remove the cushioning material, lens cap and tape used during transporting

When installing the heater at an unrequired location, turn off the switch of the heater.



3 Mount the dome cover to the camera

Use the screws (x4) to mount the dome cover to the camera. As a guide, install three claws of the dome cover and the central mark. Install such that the central mark appears above the JVC mark of the camera.



Note:

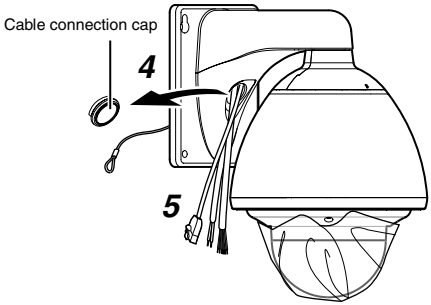
- Check that there is no dirt or dust inside the dome cover before mounting.
- When installing on a rainy day, ensure that raindrops do not enter the interior.
- When mounting the dome cover, temporarily secure the 4 screws and then tighten.
- As a guide, tighten the screws to 0.5 N•m to 1 N•m (5 kgf•cm to 10 kgf•cm). If the tightening is loose, the dome cover may fog due to water seepage.

4 Remove the cable connection cap

Remove the cap on the arm of the camera.

5 Pull out the cables from the cable connection hole

Pull out the cables (except the fall prevention wire) of the camera from the cable connection hole.



Mounting the Camera (continued)

Mounting the Camera

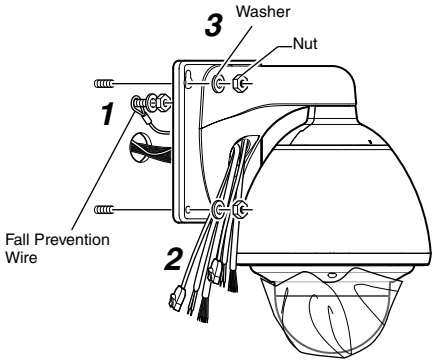
1 Mounting the fall prevention wire

- Mount the fall prevention wire of the camera to the fall prevention wire anchor bolt that was installed earlier.
- Secure the fall prevention wire tightly with a nut and washer.

2 Pull out the cables (from the wall) from the cable connection hole.

3 Mount the camera to the wall

- Mount the camera to the camera anchor bolts that were installed earlier.
- Secure the camera tightly with a nut and washer.



Note:

- This product weighs approximately 5.5kg. When installing, pay extra attention to the fall.
- For your safety, hold the arm section during installation.
- After installing, paint the nuts and washers to prevent corrosion.

Memo:

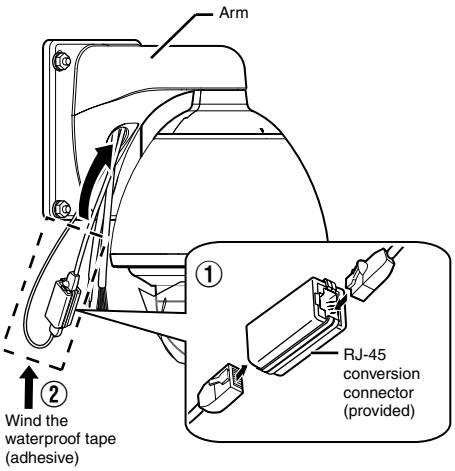
- To remove the camera, follow the reverse procedures.

Cable Connection

1 LAN Cable Connection (☞ Page 22)

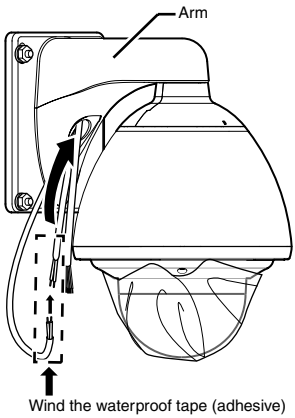
① Use the provided RJ-45 conversion connector and connect the LAN cable.

② Wind the connector section with waterproof tape (adhesive) and push the cable into the arm of the camera.



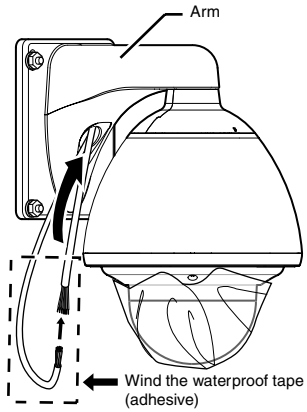
2 Connecting the power cable (☞ Page 20)

Connect the power cable and wind the waterproof tape (adhesive).
After connecting, push the cable into the arm of the camera.



3 Connecting the alarm cable (☞ Page 22)

Connect the alarm cable and wind the waterproof tape (adhesive).
After connecting, push the cable into the arm of the camera.

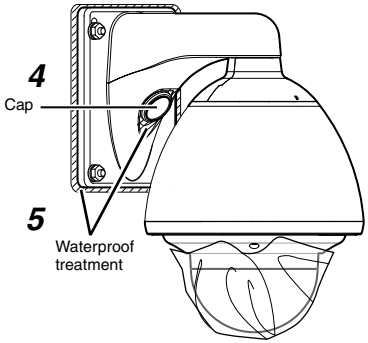


Note:

- For cables that are not used, be sure to wrap the ends individually with insulating tape.
- For safety reasons, turn on the power only after all the connection is complete.

4 Mount the cap

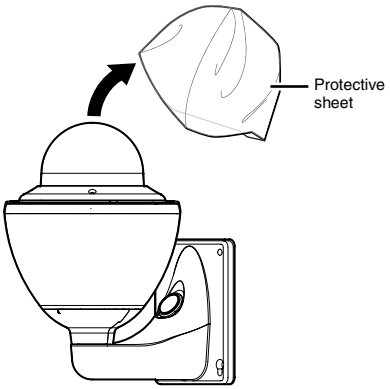
5 Seal the cable connection hole and around the mounting surface of the camera with waterproof seal (GE silicon).



Note:

- Ensure that waterproof treatment is performed. Otherwise, the camera may malfunction due to rain water seepage.
- Use GE silicon or other similar product for the sealing material.

6 Remove the dome cover protective sheet



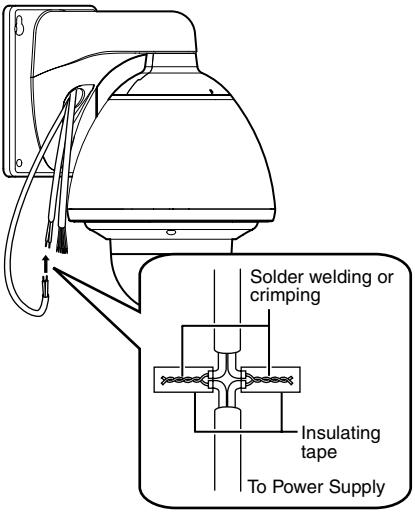
Power Connection

Note:

- Be sure to use an AC 24 V supply that is isolated from the primary power supply circuit. Using a variable voltage power supply will cause the camera and system to malfunction or breakdown.
- The unit is to be powered by an AC 24 V power supply. The AC 24 V power supply should conform to the following: Class 2 only (For USA), Isolated power supply only (For Europe and others).

Connecting the power cable

Connects the camera to AC24V power.



When using 2-core VVF (Vinyl-insulated vinyl-sheath cable), the connection distance is as follows: (Reference value)

Maximum connection distance	20 m	60 m	100 m	180 m
Conductor Diameter (mm)	ø1.0 and above	ø1.6 and above	ø2.0 and above	ø2.6 and above

Warning

- The rated power of this product is AC 24 V, 50 Hz/60 Hz. Make sure to use it with the correct voltage.
- Supplying a power beyond the rated value may result in failures, smoke or fire. When the camera breaks down, turn off the power and contact our service center immediately.
- When a power beyond the rated value is supplied, the internal components may be damaged even if no abnormality is found on the appearance and operation of the camera. Please contact your nearest JVC dealer immediately for servicing (charged separately).

Memo:

- After DHCP timeout, all IP addresses of VN-V686WPU are set to 192.168.0.2 by default. When the power of multiple cameras within the same LAN environment are turned on at the same time, the IP address of the cameras overlap, thus preventing proper access. As such, make sure to turn on the power of the cameras one by one.
- In a system where multiple units of VN-V686WPU are used, turn on the power of only one unit to configure the IP address settings using the Internet Explorer. Upon doing so, turn on the power of the second unit and configure accordingly. Configure the camera settings using the same procedure.
- When overlapping of the IP address occurs, check to ensure that there is only one VN-V686WPU unit within the same LAN environment, and wait for a while (at least 10 minutes) or power off and on all network devices under the same LAN environment. Otherwise, access to VN-V686WPU may fail.

Note:

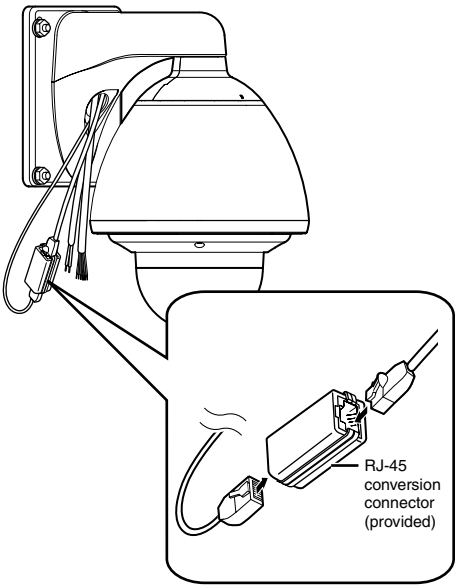
- If thin cables are used, the resistance of the cables will be high and a significant voltage drop will occur when the camera is at its maximum power consumption (when pan, tilt and zoom operates at the same time). Either use a thick cable with low resistance or place the power supply near to the camera and shorten the length of the cable to restrict the voltage drop at the rated current of camera to below 10 %. If voltage drops during operation, the camera may experience unstable performance and be unable to call up the preset position correctly.
- Do not connect an AC 24 V cable to AC 110 V/ AC 230 V power supply. The camera internal circuit will be damaged. Do not use the camera. Bring it to your nearest JVC dealer for repair (charged separately).
- Turn on the power only after the connection for all the devices is complete.
- After the power is turned on and activation is completed, this product will move to the home position.

LAN Cable Connection

Connect the camera to a hub or computer using a LAN cable.

Cable to use
- Shield (STP) cable
- Make use of a Category 5 (or higher) cable when 100BASE-TX is used.

- When connecting to a hub
  Make use of a straight cable.
- When connecting to a computer
  Make use of a cross cable.

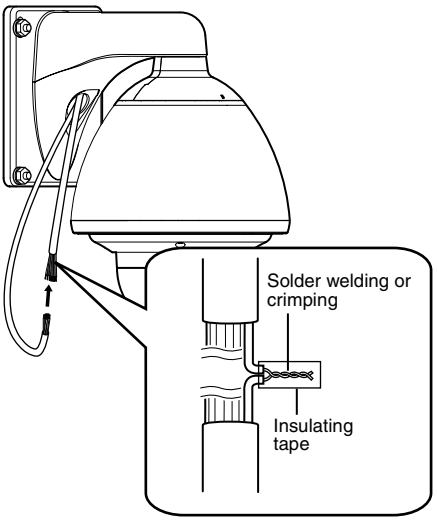


Note:
- However, cross cables cannot be used with some computer models. When connecting VN-V686WPU directly to a computer, check the computer's LAN specifications in advance.

Connecting the alarm signal cable

Connect the alarm signal cable to external devices, such as a sensor or buzzer.

Cable to use
- Length of 50 m or shorter
- UL1007, UL1015 or equivalent products
- AWG#22 to AWG#18 or equivalent products

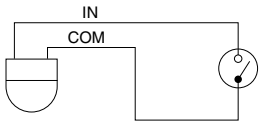


Note:
- Noises from an external source may cause the camera to malfunction even when the cable used is within 50 m. In this case, move the cable away from the noise source.

Alarm input signal

Connects to sensors such as infrared sensors, door sensors, metal sensors and manual switches.

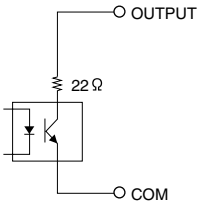
- To prevent noise from entering the internal circuit, supply non-voltage contact signal to the alarm input signal.
- Do not supply voltage.
- When the contact is short (MAKE) or open (BREAK) on the menu, you can set it to Alarm.
- Supply such that the alarm signal continues for at least more than 500 ms. The alarm signal may not be recognized if it is less than 500 ms.



Alarm output signal

Connect to alarm devices such as alarm, indicator, light or buzzer.

- Alarm output signal is an open collector output insulated with photo coupler.
- During an alarm, it is ON.
- As this terminal is polarized, be sure to connect it such that the voltage of the + output is higher than that of the - output.
- It will be damaged if reverse voltage is supplied.



Rating:
Max. applied voltage: DC 20 V
Max. driving current: 25 mA

Network Requirements

- Ensure that there is sufficient network bandwidth for the data volume to be sent out by VN-V686WPU. Do not send multicast stream that exceeds the bandwidth. If the entire bandwidth is used by the multicast stream, control of this camera via the network may fail.
- Data volume to be sent by VN-V686WPU varies with the settings and number of distributions.
- The maximum bit rate for transmission is about 20 Mbps.

Estimation of Total Bit Rate

The total JPEG bit rate from VN-V686WPU is determined by the VN-V686WPU settings, number of clients, and the client's requested number of frames. The total MPEG4 bit rate from VN-V686WPU is determined by the number of distributions. Develop a design upon taking the above into consideration.

Bit Rate of JPEG Stream

The JPEG file size per frame varies with the encoding settings as well as input video signals. The following table may be used as a reference. When VFS is selected, the quantization table during JPEG encoding will be maintained, and the file size will increase/decrease according to the input signals. When AFS is selected, encoding will be performed such that the target file size is the average size of multiple JPEG images.

Picture Quality Control Method		VGA File Size	QVGA File Size
VFS (Variable File Size)	**1** (High)	80 KB	27 KB
	2	60 KB	20 KB
	3	40 KB	13 KB
	4 (Medium)	30 KB	10 KB
	5	25 KB	8 KB
	6	20 KB	7 KB
	7 (Low)	15 KB	5 KB
AFS (Average File Size)		Selectable between 10 KB to 100 KB	Selectable between 3 KB to 33 KB

The maximum number of distributions varies with the bit rate settings as well as the client's requested frame rate. Up to 20 streams can be distributed (including multicast). The total frame rate refers to the sum of these frame rates.
For example, when 10 fps is requested by two clients, and in addition, multicast is transmitted at a rate of 10 fps, the total frame rate will be:

10 + 10 + 10 = 30 fps

If the JPEG file size per frame is 30 KB, then the total bit rate will be:

30 KB x 30 fps = 900 KB/s = Approx. 7.2 Mbps

Bit Rate of MPEG4 Stream

You can select either the Variable Bit Rate (VBR) or Constant Bit Rate (CBR) system for MPEG4 stream.
When the VBR system is selected, the bit rate varies according to the condition of the input video signals. The VBR system delivers a stable picture quality, but forecast of the bit rate is difficult.
When the CBR system is selected, encoding is performed at a fixed bit rate regardless of the condition of the input video signals. The picture quality varies under the CBR system, but the bit rate can be easily forecast.
You can specify an estimated bit rate for both VBR and CBR. (64 kbps to 8000 kbps)

Restrictions on the Number of Distributions for VN-V686WPU

The maximum number of distributions for VN-V686WPU is determined by the settings as well as requirements from the client.
When only JPEG images are distributed, the maximum number of distributions is determined based on the highest bit rate within the stream. When a distribution request that exceeds the maximum number of distributions is received, this request is denied. For example, if Client A requests for and receives data at 1 Mbps, while Client B requests for and receives data at 5 Mbps, the maximum number of distributions is 4 streams according to the table below.

Maximum number of distributions when only JPEG data is distributed

Distribution at maximum bit rate	Maximum number of distributions	Total maximum bit rate
1 Mbps and below	20	20 Mbps
5 Mbps and below	4	20 Mbps
10 Mbps and below	2	20 Mbps
Larger than 10 Mbps	1	Maximum configurable value (24 Mbps)

When only MPEG4 images are distributed, the maximum number of distributions is determined by the preset bit rate. When a distribution request that exceeds the maximum number of distributions is received, this request is denied.

When distributing only MPEG4 data

Preset bit rate	Maximum number of distributions	Total maximum bit rate
0.6 Mbps and below	20	12 Mbps
3 Mbps and below	4	12 Mbps
6 Mbps and below	2	12 Mbps
Larger than 6 Mbps	1	Maximum configurable value (8 Mbps)

When both JPEG and MPEG4 images are distributed simultaneously, distribution up to two clients for JPEG and MPEG4 respectively is possible. However, distribution requests that exceed a total bit rate of 20 Mbps will be denied.

Total bit rate	Maximum number of distributions for JPEG	Maximum number of distributions for MPEG4
20 Mbps and below	2	2

Insufficient network bandwidth

When there is insufficient bandwidth, the number of JPEG frames (frame rate) that the client can acquire will decrease. Delay will also occur in the distribution of images. In the case of MPEG4, noise interference may occur and playback may fail.

Network Delay

When the client acquires JPEG via TCP, VN-V686WPU will send out data while checking the ACK from the client at the same time. For networks with considerable delay, data cannot be sent out until ACK is received, and therefore the frame rate will drop. In the case of MPEG4, noise interference may occur and playback may fail.
Decrease in the frame rate due to network delays can be eliminated by receiving data via multicast.

Network Jitter

When there is considerable network jitter, delay time may be prolonged and the image frame rate may drop. In the case of MPEG4, noise interference may occur and playback may fail.

Packet Loss

When acquiring images from VN-V686WPU via TCP, packet loss may be recovered by TCP transmission. When there is considerable delay in the network, however, missing data may occur and the image frame rate may drop. In the case of MPEG4, noise interference may occur and playback may fail.
When packet loss occurs during multicast sending from VN-V686WPU, the image frame rate may drop. In the case of MPEG4, noise interference may occur and playback may fail.

List of Protocols and Port Numbers Used by VN-V686WPU

VN-V686WPU uses the protocols and port numbers listed below. Ensure that these ports are allowed through the firewall when a firewall is to be installed.

Protocol/Port No.	Purpose of Use
Source	
TCP/80	JPEG/MPEG4 server, Web Settings page, API
TCP/5510	VSIP
UDP/5510	VSIP
UDP/9541	VSIP discovery protocol
TCP/10020 TCP/10021 TCP/10023	(Reserved for adjustment)
TCP/32040	Alarm Server
Destination	
TCP/20, 21	FTP
TCP/25	Mail delivery
TCP/110	POP (Mail Delivery)
TCP/User Setting No.	Sending alarm
UDP/123	SNTP
UDP/User Setting No.	Sending alarm

IP Address Settings

Setting the IP address for VN-V686WPU

There are two methods to set the IP address for VN-V686WPU as follows.

(A) Assigning an IP address to VN-V686WPU from the DHCP server

(B) Assigning a static IP address to VN-V686WPU

■ (A) Assigning an IP address from the DHCP server

- VN-V686WPU is set to "DHCP Enable" (the DHCP client function is ON) by default. To assign an IP address from the DHCP server, connect the DHCP server to the LAN, set the [IP setting] of VN-V686WPU to "DHCP", and click the [OK] button. (☞ Page 30)
- For details on IP addresses assigned to VN-V686WPU, consult your network administrator.

  You can look up the IP address of VN-V686WPU using the search tool in the supplied CD-ROM.
  For details, please refer to "Readme" file in the CD-ROM.

Note:

- Set the DHCP server such that the same IP address is always assigned to the MAC address of VN-V686WPU by the DHCP server. Connection may fail if the above setting is not performed.

■ (B) Assigning a static IP address

● System configuration required for setting IP address

VN-V686WPU at factory default is set to "DHCP Enable" (DHCP client function is On). When it is connected to a LAN without DHCP servers, it will activate under the following IP address after timeout.

IP address : 192.168.0.2
Subnet mask : 255.255.255.0
Default gateway : None

Memo:

- To set a static IP address for VN-V686WPU, connect VN-V686WPU, the switching hub and the computer for setting using a straight LAN cable of Category 5 and above.

● Set up the computer for setting the IP address.

● Minimum computer specifications for setting

OS : Windows XP (Professional or Home Edition) (SP2)
Web browser : Internet Explorer Version 6.0

Note:

- When setting the IP address for VN-V686WPU, do so by using a network that is made up only of VN-V686WPU, the computer for setting and the switching hub.
- Using a hub connected to other network devices or networks via a LAN cable for setting can cause problems.

● **IP address setting at the computer**

Set the computer to an IP address that enables communication with VN-V686WPU.

1 Click [Start]

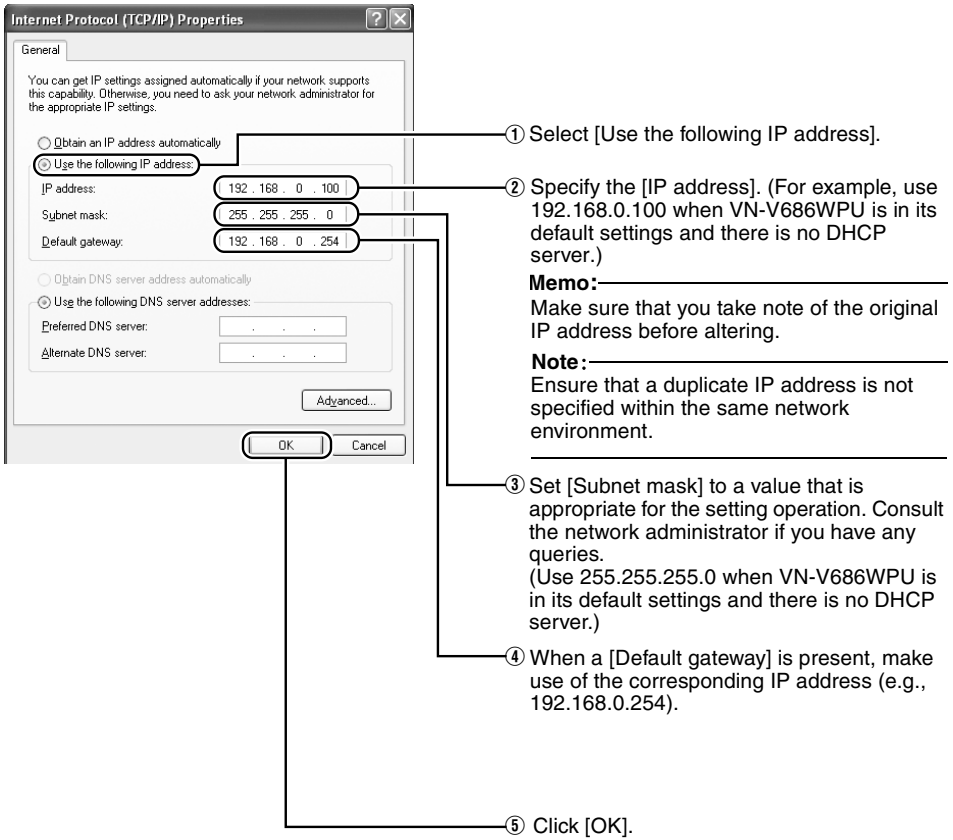
- Select in the sequence of [Control Panel]–[Network Connection]–[Local Area].

2 The computer on which Internet Explorer is launched automatically selects the connected network

- Right-click and select [Properties].
- Check to ensure that the [Client for Microsoft Networks] and [Internet Protocol(TCP/IP)] check boxes are selected.

3 Select [Internet Protocol(TCP/IP)] and click [Properties]

4 Set the IP address



① Select [Use the following IP address].

② Specify the [IP address]. (For example, use 192.168.0.100 when VN-V686WPU is in its default settings and there is no DHCP server.)

Memo:

Make sure that you take note of the original IP address before altering.

Note:

Ensure that a duplicate IP address is not specified within the same network environment.

③ Set [Subnet mask] to a value that is appropriate for the setting operation. Consult the network administrator if you have any queries.
(Use 255.255.255.0 when VN-V686WPU is in its default settings and there is no DHCP server.)

④ When a [Default gateway] is present, make use of the corresponding IP address (e.g., 192.168.0.254).

⑤ Click [OK].

5 Click [OK] on the [Local Area Connection Propertise] screen

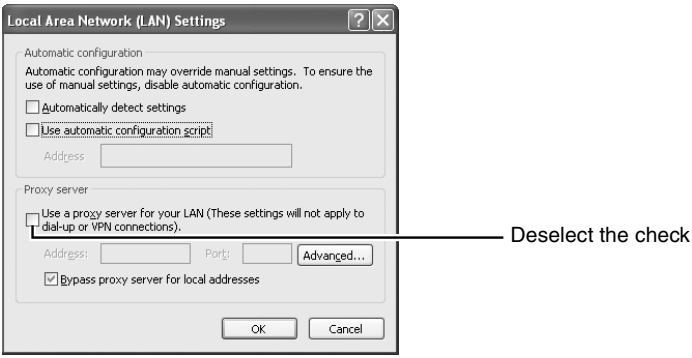
IP Address Settings (continued)

● **Changing the IP address using the Internet Explorer**

1 Launch the Internet Explorer on the computer

2 When proxy settings are enabled in the Internet Explorer, follow the steps below to disable the proxy of the Internet Explorer

- Select in the order of [Tool]–[Internet Options]–[Connections]–[LAN Setting], followed by deselecting the check for [Use a proxy server for your LAN] under [Proxy Server] of the [Local Area Network (LAN) Settings] window.

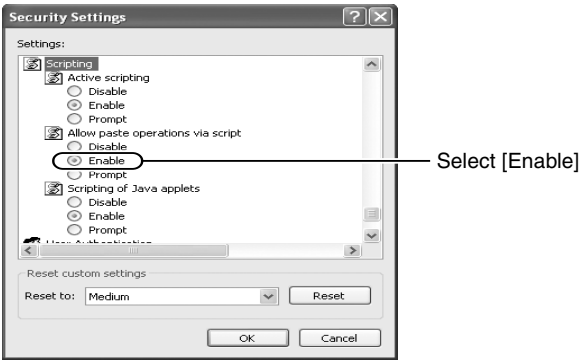


3 If the active script of the Internet Explorer is disabled, follow the steps below to enable it

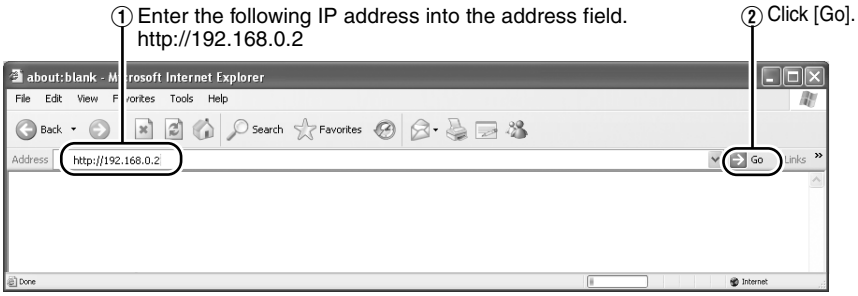
- Select [Trusted sites] under [Tool]–[Internet Options]–[Security]. Upon doing so, the [Sites…] button directly below becomes active. Click this button and deselect the check [in the displayed window], and add the following web site to the zone.

  http://192.168.0.2

- Next, select [Trusted sites] under [Tool]–[Internet Options]–[Security], and press the [Custom Level] button. Select [Enable] under [Scripting]–[Active script] of the [Security Settings] window that has been opened.



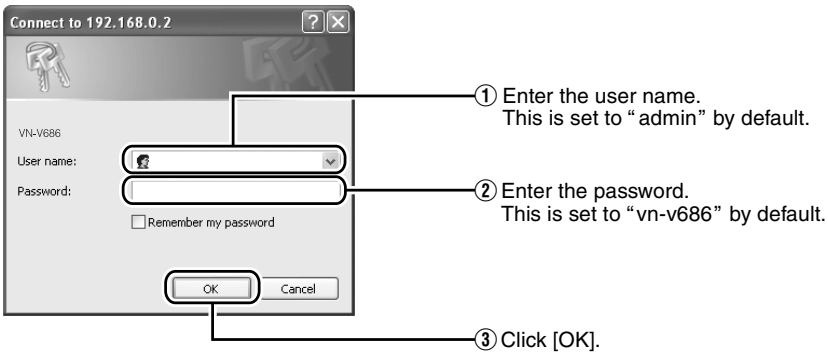
4 Launch the Internet Explorer



Memo:

- If the proxy server settings for access to the Internet via the Internet Explorer is enabled, you may not be able to specify the IP address directly. In this case, change the proxy settings of the Internet Explorer.
- After the [Security Settings] screen appears, press the [OK] button to proceed.

5 Enter the user name and password (login as administrator)



Memo:

- After the [Security Settings] screen appears, press the [Yes] button to proceed.

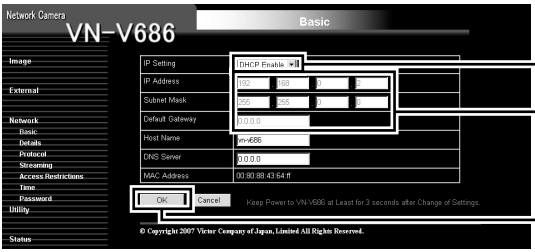
IP Address Settings (continued)

● **Changing the IP address using the Internet Explorer (continued)**

6 The top page of VN-V686WPU appears

Click on [Network], followed by [Basic] on the next submenu.

7 The [Basic] page with the IP address settings appears



① Set the [IP Setting] item to [DHCP Disable].
② Enter the values you wish to specify in the [IP Address], [Subnet Mask] and [Default Gateway] fields.
③ Click [OK].

A confirmation screen appears. Press the [OK] button. VN-V686WPU restarts using the new IP address. It takes about one minute for the camera to reboot.

Memo:

- Access from this computer may fail when the IP address of VN-V686WPU is changed. To enable access to VN-V686WPU from the same computer, alter the IP address at the computer accordingly.

When the display or configuration of the opened screen appears strange, check the computer settings using the following procedures.

① Click [Start]−[Control Panel]−[Display] and open the [Display Properties] window
② Click the [Settings] tab in the [Display Properties] window and click the [Advanced] button
③ Check that [DPI setting] in the [General] tab has become [Normal size(96DPI)]
④ Otherwise, change the setting to [Normal size(96DPI)] and reboot Windows

When the IP address of VN-V686WPU is known

When the IP address of VN-V686WPU is known, it can be changed by accessing the built-in web page of VN-V686WPU via the Internet Explorer on the computer.
Refer to [Setting Using Internet Explorer] (☞ Page 32).

When the IP address of VN-V686WPU is unknown

IP address settings cannot be changed by accessing via a computer when the IP address of VN-V686WPU is unknown.
Use [Search tool] in the provided CD-ROM to find the IP address. You can use this tool to search for information on VN-V686WPU within the LAN.

Memo:

- For details on [Search tool], please refer to the "Readme" file in the CD-ROM supplied with this product.

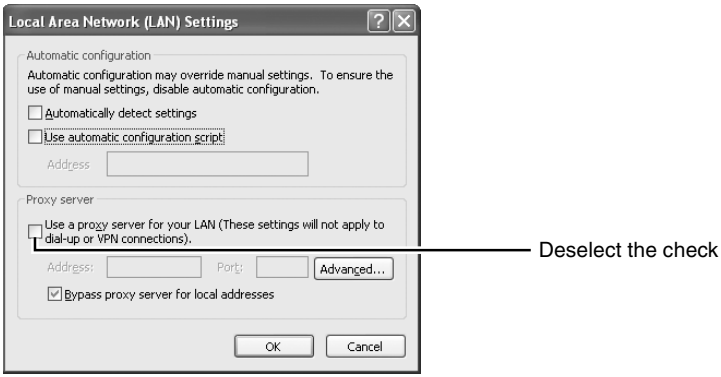
Preparation

Internet Explorer Setup

1 Launch the Internet Explorer on the computer

2 When proxy settings are enabled in the Internet Explorer, follow the steps below to disable the proxy of the Internet Explorer

- Select in the order of [Tool]−[Internet Options]−[Connections]−[LAN Setting], followed by deselecting the check for [Use a proxy server for your LAN] in [Proxy Server] of the [Local Area Network (LAN) Settings] window.

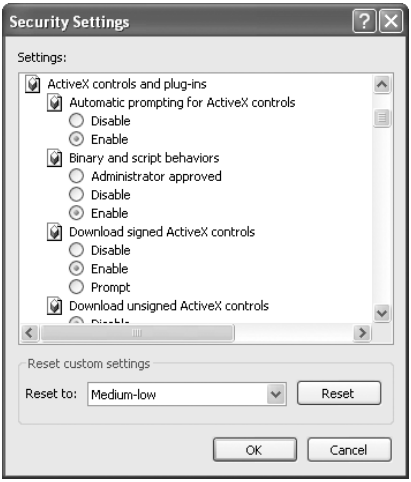


3 If ActiveX controls and plug-ins of the Internet Explorer is disabled, follow the steps below to enable it

- Click [Trusted sites] under [Tool]–[Internet Options]–[Security]. Click on the [Sites…] button directly below, followed by deselecting the check [in the displayed window]. Add the following web site to the zone.

  http://192.168.0.2

- Click [Trusted sites] under [Tool]–[Internet Options]–[Security]. Select the [Custom Level] button and open the [Security Settings] window. Set all items under [ActiveX controls and plug-ins] in the opened window to [Enable]. Enable also [Use the following IP address] under [Miscellaneous].



4 Disable pop-up block

Connection of VN-V686WPU cannot be established when pop-up block in the Internet Explorer is set to "Enable".
Follow the steps below to set the pop-up block to "disable".

- Selecting [Tool]–[Pop-up Blocker]–[Turn Off Pop-up Blocker] permits all sites.
- To allow only specific sites such as VN-V686WPU, select [Tool]–[Pop-up Blocker]–[Turn On Pop-up Blocker], followed by selecting [Tool]–[Pop-up Blocker]–[Pop-up Blocker Settings] that becomes active to open the [Pop-up Blocker Settings] window.

  In the opened window, add the address of VN-V686WPU as a permitted web site address.

5 When plug-in tools such as the Yahoo or Google toolbar are included in the Internet Explorer, disable the pop-up block function of these plug-in tools as well

Preparation (continued)

Enter user name and password

User name and password entry will be required at the beginning.
There are three access authorization levels to VN-V686WPU. The factory settings are as follows.

User Name	Default Password	Description
admin	vn-v686	All operations and setting changes are allowed
operator	vn-v686	Change of settings other than those related to network and maintenance are allowed
user	vn-v686	Viewing of images is allowed

● **Pages that users have access to**

Restrictions are placed on the pages that users have access to. In addition, links on the web pages are also displayed according to the access authority of the user.

● **admin**

Image	[View] [Camera] [Encoding]
External	[Alarm] [Alarm Environment] [PTZ] [Auto Patrol 0] [Auto Patrol 1] [Auto Patrol 2] [Privacy Mask] [Motion Detection]
Network	[Basic] [Details] [Protocol] [Streaming] [Access Restrictions] [Time] [Password]
Utility	[Maintenance] [Miscellaneous]
Status	[Operation] [Settings] [Position List] [Patrol Settings 0] [Patrol Settings 1] [Patrol Settings 2]

● **operator**

Image	[View] [Camera] [Encoding]
External	[Alarm] [Alarm Environment] [PTZ] [Auto Patrol 0] [Auto Patrol 1] [Auto Patrol 2] [Privacy Mask] [Motion Detection]
Network	[Streaming]
Utility	[Miscellaneous]
Status	[Operation] [Settings] [Position List] [Patrol Settings 0] [Patrol Settings 1] [Patrol Settings 2]

- **user**

Image	[View]
Utility	[Miscellaneous]

Memo:

- Security Information window may appear before the top page is displayed. Press the [OK] button to proceed.

  If you do not want this warning screen to be displayed, change the Internet Explorer settings as follows.
  - Open [Tool]–[Internet Options]–[Security] and select the [Trusted sites] icon.
  - Next, press the [Custom Level] button, followed by selecting "Enable" for [Miscellaneous]–[Display mixed content].

Note:

- Do not reset or turn off the power of VN-V686WPU immediately after the settings are changed. Otherwise, changes may not be saved, and VN-V686WPU may be restored to the factory settings.
- If settings are changed when sending JPEG or MPEG4, the transmission may be temporarily cancelled.

Setting

View Page

This top page is displayed upon access using any of the user names “admin”, “operator” or “user”.

The current image is displayed as a still image.
Links to each page are found at the left end. The links displayed vary according to the user name. For example, in the case of “admin” or “operator”, three links, namely [View], [Camera] and [Encoding] are displayed upon clicking [Image]. In the case of “user”, only [View] is displayed.

(The diagram below shows the View page upon access using “admin” or “operator”. The number of links displayed at the left end decreases during access using “user”, and [JPEG Viewer] and [MPEG4 Viewer] are not displayed.)

When the display or configuration of the opened screen appears strange, check the computer settings using the following procedures.

① Click [Start]–[Control Panel]–[Display] and open the [Display Properties] window
② Click the [Settings] tab in the [Display Properties] window and click the [Advanced] button
③ Check that [DPI setting] in the [General] tab has become [Normal size(96DPI)]
④ Otherwise, change the setting to [Normal size(96DPI)] and reboot Windows

① **Reload Still Image**	Press this button to refresh the displayed still image. Clicking [View] or re-entering the Internet Explorer address will only display the page that is temporarily stored in the Internet Explorer, and still images may not be refreshed. To refresh still images using the above operations, change the Internet Explorer settings as follows. ● Open [Tool]–[Internet Options], click the [Settings] button under Temporary Internet Files, and select "Every visit to the page". **Note:** ● When a firewall is installed between VN-V686WPU and the computer, still images may not be displayed on the Image View page of the web browser. For such systems, check the still images using Built-in Viewer. Built-in Viewer supports NAT/NAPT.
② **JPEG Viewer**	This is displayed upon access to the View page using "admin" or "operator". Click this button to display screens such as the [Security Settings] screen. Press the [OK] or [Yes] button to launch Built-in JPEG Viewer. Do not click on the [JPEG Viewer] button over and over again while leaving the warning screen unattended. When this button is pressed for the first time on the operating PC, Built-in JPEG Viewer will be installed on the computer. **Memo:** ● Refer to [Built-in Viewer] (☞ Page 91) on procedures to install Built-in Viewer on the computer and ways to use Built-in Viewer.
③ **MPEG4 Viewer**	This is displayed upon access to the View page using "admin" or "operator". Click this button to display screens such as the [Security Settings] screen. Press the [OK] or [Yes] button to launch Built-in MPEG4 Viewer. Do not click on the [MPEG4 Viewer] button over and over again while leaving the warning screen unattended. When this button is pressed for the first time on the operating PC, Built-in MPEG4 Viewer will be installed on the computer. **Memo:** ● Refer to [Built-in Viewer] (☞ Page 91) on procedures to install Built-in Viewer on the computer and ways to use Built-in Viewer.

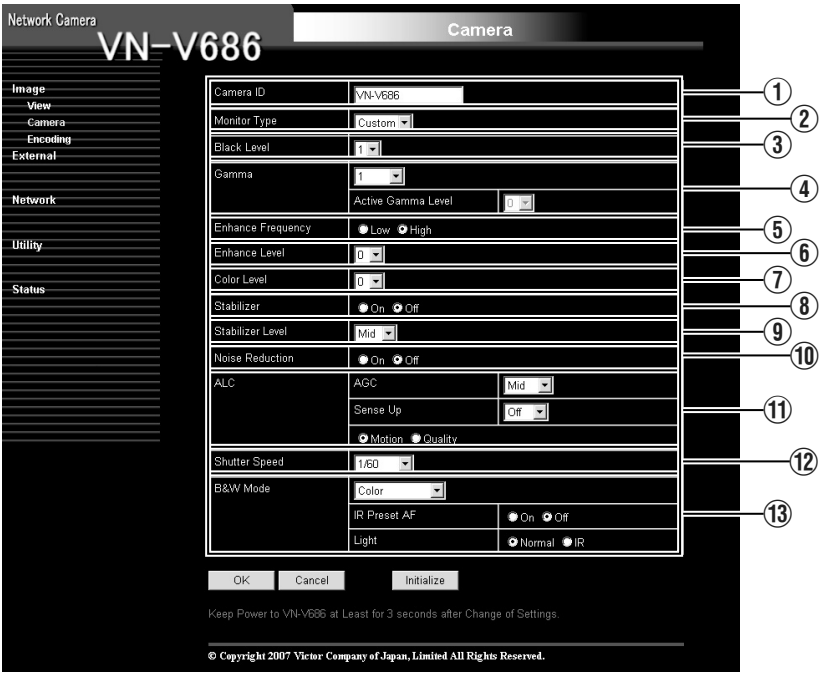
Setting (continued)

Camera Page

This page is for setting the camera's parameters.

This page can be used during access using "admin" or "operator".

- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.
- To restore the settings of this page to the factory settings, press [Initialize] button.

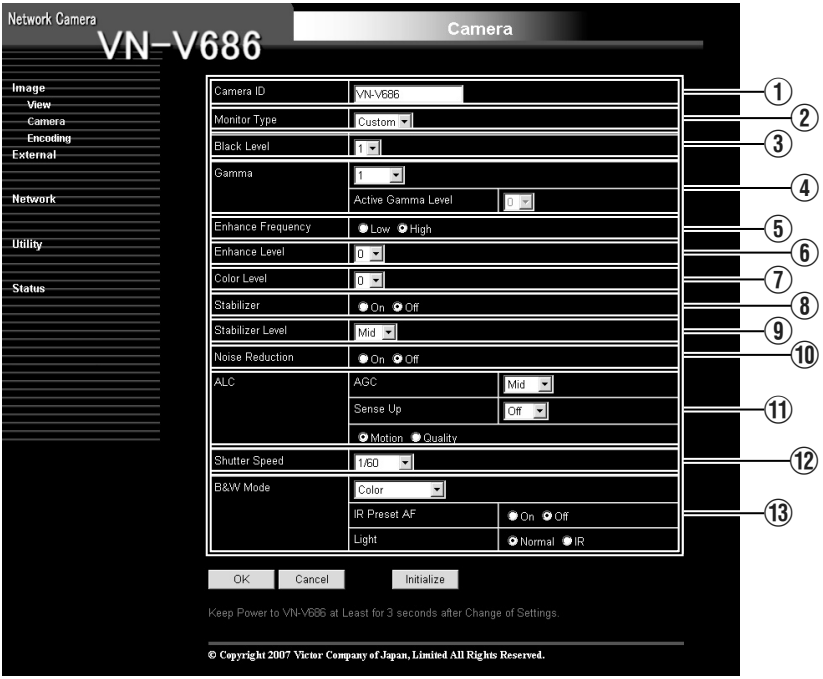


① **Camera ID**	Character strings entered here will be written to the JPEG comment segment (item name: camera). Refer to the [API Guide] (provided CD-ROM) on the file formats of JPEG.
② **Monitor Type**	For selecting the monitor type according to the monitor used to display the video images. The picture quality varies according to the type of monitor selected. Custom : Enables setting of picture quality according to the user's preference. LCD1, LCD2 : Picture quality setting for LCD monitors. Two types are available for selection according to the user's preference. CRT : Picture quality setting for CRT (cathode-ray tube) monitors. **[Setting values : Custom, LCD1, LCD2, CRT]**

③ **Black Level**	For adjusting the black level. Lowering the value darkens the video image. Increasing the value brightens the image. **[Setting range : 0 to 2]** **Memo:** ● If the black level is set to "0", this may be too low depending on the connected device, or dark area will become complete black. ● When using MPEG4 images, set to either "1" or "2".
④ **Gamma**	To alter the appearance of dark areas in a video image, adjust the gamma curve. 0 : Gamma correction suitable for CRT is performed. 1 : Gamma correction suitable for some LCDs is performed. 2 : Do not perform gamma correction. This setting is suitable for some LCDs. Active : The most appropriate gamma correction is applied according to the darkness of the screen. Select the level under [Active Gamma Level]. **[Setting values : 0, 1, 2, Active]** **Memo:** ● The set value is fixed when the [Monitor Type] ② is set to "LCD1", "LCD2", or "CRT".
Active Gamma Level	This adjusts the effect when [Gamma] ④ is set to "Active". Objects with little luminance difference➡Decrease the number Objects with large luminance difference➡Increase the number **[Setting range : -5 to 0 to 5]** **Memo:** ● The color may appear different from the actual one depending on the object. ● Noise interference and hue changes may appear prominent depending on the brightness of the object but this is not a malfunction. ● This feature can only be configured when [Gamma] ④ is set to "Active".
⑤ **Enhance Frequency**	For setting the type of edge enhancement. Low : Enhanced edges become thicker. High : Enhanced edges become thiner. **[Setting values:Low, High]** **Memo:** ● The set value is fixed when the [Monitor Type] ② is set to "LCD1", "LCD2", or "CRT".
⑥ **Enhance Level**	For setting the intensity of edge enhancement. Larger value : Increases the intensity of edge enhancement. Smaller value : Decreases the intensity of edge enhancement. **[Setting range : -5 to 0 to 5]**
⑦ **Color Level**	For adjusting the color level. Larger value : Increases the color level. Smaller value : Decreases the color level. **[Setting range : -5 to 0 to 5]**

Setting (continued)

Camera Page (continued)

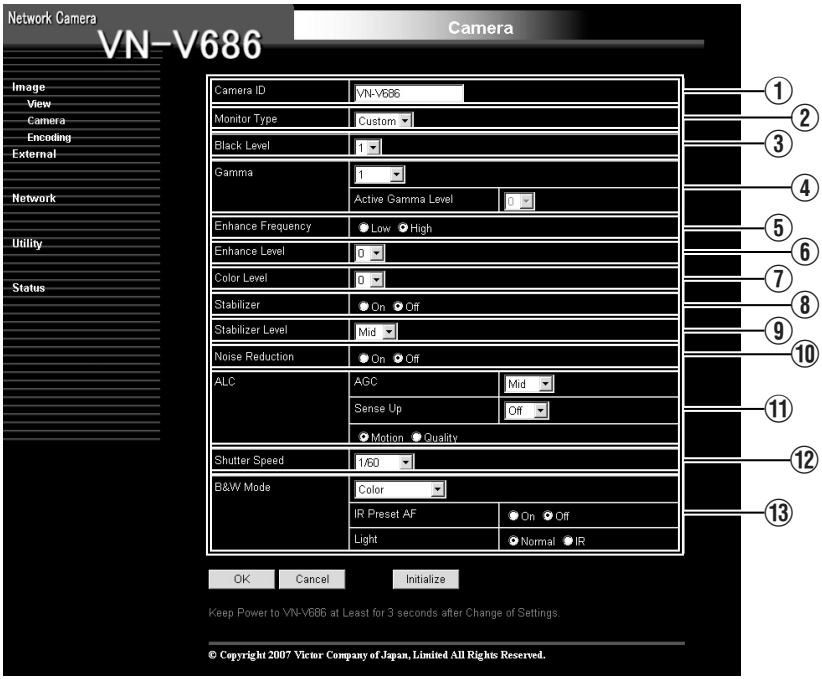


⑧ Stabilizer	This function prevents image shaking caused by vibration. Set this function to "On" to control image shaking. Off : Disabled. On : Enabled. **Memo:** ● When the function is set to "On", the screen is enlarged to approximately 1.3 times. ● Adjustment is disabled in the electronic zoom area. ● Adjustment is disabled for about 1 minute after power ON and during Pan/Tilt/Zoom operation. ● Adjustment may not work when the vibration is fast. The effect can be small when vibration direction does not match with Pan/Tilt position. Depending on the installation environment, the stabilizer may malfunction and increase image shaking due to the vibration transmitting to the camera. In this case, set the stabilizer to "Off".

⑨ **Stabilizer Level**	This item allows you to set the adjustment level of the [Stabilizer] item ⑧ in 3 steps. The adjustment volume is larger if the value is set to "High" rather than "Mid". When it is set to "Low", the adjustment volume is lesser than compared to when it is set to "Mid". **[Setting values : Low,Mid,High]**
⑩ **Noise Reduction**	When "On" is set, image noise on the screen will be reduced. **Memo:** ● This item is only enabled when [AGC] item ⑪ is set to "High" or "Super". ● Image noise in dark images will be reduced but the resolution will deteriorate. ● The edges between high and low illumination area may appear rough.
⑪ **ALC**	For setting the priority of ALC (feature for maintaining the video level according to the brightness of the object). You can select whether to assign priority to the motion or picture quality when the object becomes dark. Motion : Prioritizes movement. When the object becomes dark, priority is given to AGC (automatic gain control), and therefore this is suitable for shooting fast-moving objects. Quality: Prioritizes image quality. When the object becomes dark, priority is given to the Sense Up feature, and therefore this is suitable for shooting objects requiring a high picture quality. **[Setting values : Motion,Quality]**
AGC	For setting the AGC (automatic gain control) level. Off : Disables the AGC feature Mid : When the amount of light is insufficient High : When the amount of light is particularly insufficient Super : When the brightness level is insufficient even upon setting to "High". **[Setting values : Off, Mid, High, Super]** **Memo:** ● The screen appears grainy at dark locations when the AGC feature is in use.
Sense Up	This feature is used to raise the sensitivity level by lengthening the exposure time. You can specify the number of times by which the sensitivity level is to be increased automatically when the object becomes dark. When "x32" is selected, the sensitivity is canged dynamically up to 32 times to fit to current darkness. When sensitivity increases, the shutter speed becomes slower and hence, movement becomes unnatural. When set to "Off", Sense Up is disabled. **[Setting values : Off, x2, x4, x8, x16, x32, x64, x128]** **Memo:** ● Upon raising the sensitivity level, the screen may appear grainy or white, or white defects may occur. However, this is not a malfunction. ● When [Sense Up] is set to a value other than "Off", flickers occur under the light of fluorescent or mercury lamps. This is not a malfunction of the camera, but is due to principles related to Sense Up. ● When the [Shutter Speed] item ⑫ is set to "1/100" to "1/10000", set [Sense Up] to "Off".

Setting (continued)

Camera Page (continued)



⑫ **Shutter Speed**	This item sets the speed of the electronic shutter. When [Sense Up] item ⑪ is set to "x2" or above, available setting value is "1/60" or "1/100" only. **[Setting values : 1/60,1/100,1/250,1/500,1/1000,1/2000,1/4000,1/10000]** **Memo:** ● Flickering of fluorescent lightings can be reduced when the shutter speed is set to "1/100" or "1/60" respectively in regions of commercial power frequency 50 Hz and 60 Hz. ● A smear phenomenon specific to CCD, where white bands appear vertically along bright light source, is more emphasized the faster the shutter speed is.
⑬ **B/W Mode**	This sets the function to switch from Color to B&W mode. Color : Always be in Color mode. Black & White : Always be in B&W mode. Auto Low,Auto Mid,Auto High : This item automatically switches between Color Mode and B&W Mode when the luminance meets defined conditions over 30 seconds. Select the sensitivity from three options. **Memo:** **To ensure a successful B&W/Color switching** ● If the [B/W Mode] item is set to "Auto Low, Auto Mid, Auto High", the B&W/Color setting can be switched according to the brightness of the object, but the condition of illumination and field angle may make this impossible. To be absolutely certain of B&W/Color switching, connecting external sensor to alarm input cable of this camera and setting alarm action of B&W mode is recommended.
IR Preset AF	When switching the Color mode to B&W mode, the type of light source may cause the focus to be dislocated. This is because the B&W mode is sensitive to both visible light and near-infrared light. When this happens, set this item to "On" to focus automatically. On : Enabled. Off : Disabled.
Light	This item sets the illumination of the object during B&W mode. Normal : Select this for normal illumination. IR : Select this when using infrared illumination. **Memo:** ● If "IR" is set under normal sunlight or fluorescent lighting, the camera will not switch normally from Color to B&W mode.

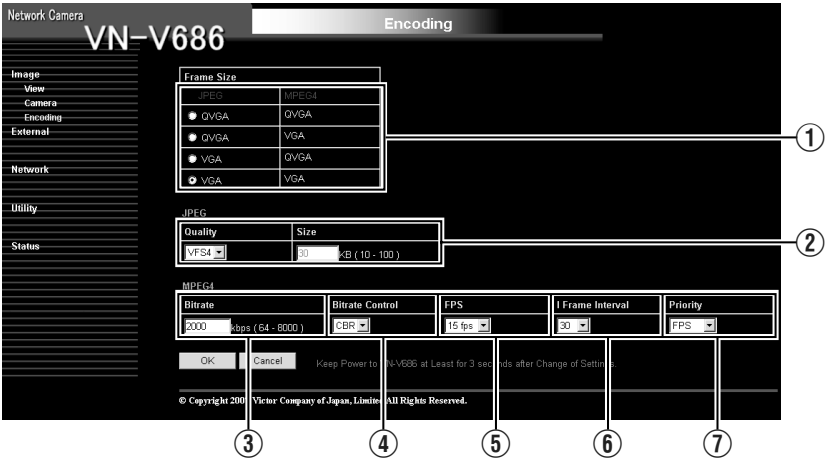
Setting (continued)

Encoding Page

This page is for setting JPEG and MPEG4 encoding parameters.

This page can be used during access using “admin” or “operator”.

- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.
- When settings on this page are altered during playback using Built-in Viewer, reboot the viewer.
- There is a maximum limit to the bit rate for transmission by VN-V686WPU. If a bit rate that exceeds the maximum limit is specified, this new setting will not be applied. For details on the maximum transmission limit, refer to [Network Requirements] (☞ Page 24).



① **Frame Size**	For setting the frame size of each JPEG or MPEG4 screen to “VGA” (640 x 480) or “QVGA” (320 x 240). Select one of the four different patterns.

JPEG	
② **Quality/Size**	For specifying the rate control mode and target file size for JPEG. When "VFS1" to "VFS7" is selected, the quantization table during JPEG encoding will be maintained and the file size will increase/decrease according to the input signals. Stipulated values will be displayed in the Size field. When recording JPEG data to a recorder with a limited storage capacity, note that the maximum recording time may vary as the file size fluctuates under this setting. When "AFS" is selected, encoding is performed such that the target file size is the average size of multiple JPEG images. You can enter the target size in the [Size] field. **[Quality settings : AFS, VFS1 to VFS7]** **[Size field setting range for VGA : 10KB to 100KB (Only when setting "AFS")]** **[Size field setting range for QVGA : 3KB to 33KB (Only when setting "AFS")]**
MPEG4	
③ **Bitrate**	For setting the MPEG4 encoding bit rate. **[Setting range : 64kbps to 8000kbps]**
④ **Bitrate Control**	For selecting whether to set the MPEG4 rate control mode to CBR (Constant Bit Rate) or VBR (Variable Bit Rate). CBR : Encoding is performed at a fixed bit rate regardless of the condition of the input video signals. Enables easy forecast of the bit rate. VBR : Changes the bit rate according to the condition of the input video signals. Picture quality is stable, but forecast of the bit rate is difficult.
⑤ **FPS**	For setting the MPEG4 frame rate. **[Setting range : 1 fps, 7.5 fps, 10 fps, 15 fps, 25 fps, 30 fps]**
⑥ **I Frame Interval**	For setting the I-frame interval. MPEG4 starts encoding from the I-frame. Shortening the interval stabilizes the picture quality even when there are rapid changes in the video image. However, the picture quality for images with little change will deteriorate. In addition, when multicast packet loss occurs, the time interval required to restore the image is shorter. **[Setting values : 30, 60, 90, 120, 150]**
⑦ **Priority**	For selecting whether to assign priority to the frame rate or picture quality during MPEG4 encoding. FPS : Assigns priority to frame rate. Select this setting to enable smooth monitoring of motion images. Quality: Prioritizes image quality. **Memo:** ● Valid when [Bitrate Control] ④ is "CBR". When a very small bit rate is set for the frame rate or frame size, "CBR" or "VBR" will become the lowest images and a difference will appear in the frame rate. "Quality" which skips frames will be able to realize small bit rates better than "FPS".

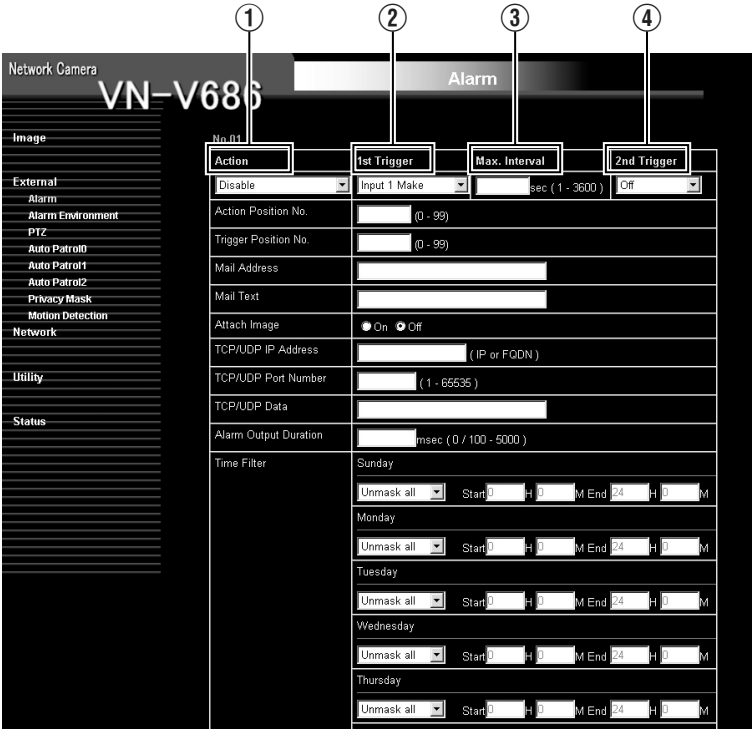
Setting (continued)

Alarm Page

This page is for setting actions when there is an alarm.
Up to 5 actions (No. 01 to No. 05) may be set.

This page can be used during access using “admin” or “operator”.

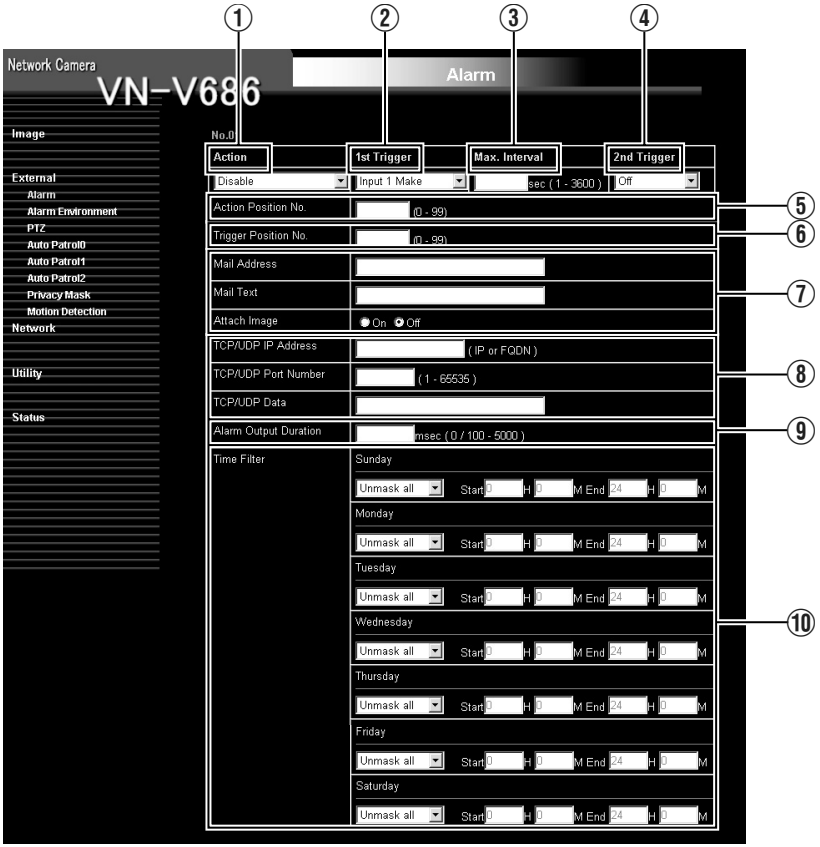
- Press the [OK] button to enable the new settings. Only items that are valid under the selected action will be saved. When Disable is selected for the action, all settings will be restored to their default values.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.



① **Action**	For specifying the type of action. Disable : Does not trigger any action. Mail : Sends out e-mail. Specify the recipient's mail address. The title of the mail will appear as [Alarm from VN-V686] and the sender as [Camera ID]. Enter the message to send in [Mail Text]. Input up to 127 alphanumeric characters. To attach the latest image to the mail, set [Attach Image] to "On". PrePostRecording + FTP : Sends out pre-/post-recorded JPEG files via FTP. See the page on Alarm Environment for details on pre-/post-recording and FTP server settings. (☞ Page 50) The maximum transmission rate of FTP is 1 Mbps. If a new FTP trigger occurs during post-recording, the recorded portion is treated as pre-recording and a new post-recording starts. During FTP transmission after completing the post-recording, a new post-recording starts if a new FTP trigger occurs. TCP : Sends out the character string entered in the [TCP/UDP Data] field to the destinations specified in [TCP/UDP IP Address] and [TCP/UDP Port Number] via TCP. UDP : Sends out the character string entered in the [TCP/UDP Data] field to the destinations specified in [TCP/UDP IP Address] and [TCP/UDP Port Number] via UDP. TCP/UDP Data : Input up to 127 alphanumeric characters. PinOutout 1 Make : Changes Alarm Output 1 to Make. PinOutout 1 Breake : Changes Alarm Output 1 to Break. PinOutout 2 Make : Changes Alarm Output 2 to Make. PinOutout 2 Breake : Changes Alarm Output 2 to Break. Set the alarm output time in the [Alarm Output Duration] field. Position : This item moves the camera to the position set in [Action Position No.] ⑤. BlackWhite → Color : Changes the [B/W Mode] setting from "Black & White" to "Color". Color → BlackWhite : Changes the [B/W Mode] setting from "Color" to "Black & White". DayNight:Auto Low : Changes the [B/W Mode] setting to "Auto Low". DayNight:Auto Mid : Changes the [B/W Mode] setting to "Auto Mid". DayNight:Auto High : Changes the [B/W Mode] setting to "Auto High". **Memo:** ● For details on [B/W Mode], see [B/W Mode] (☞ Page 43).

Setting (continued)

Alarm Page (continued)



② 1st Trigger	This item specifies the first trigger to the operation set in [Action] ①. **[Setting values: Input 1 Make, Input 2 Make, Input 1 Break, Input 2 Break, Motion Detection, Fan Stop, Position, BlackWhite → Color, Color → BlackWhite]** **Memo:** ● When the second trigger is turned off, the action will be invoked only by the first trigger. ● When "Motion Detection", "Fan Stop", "Position", "BlackWhite → Color", "Color → BlackWhite" is selected as the first trigger, selection of "Max. Interval" and "2nd Trigger" will be disabled.

③ **Max. Interval**	Enabled when both the first and second triggers are specified. Specify the maximum interval between the first and second triggers. An action will be invoked only if the interval between the first and second triggers is within the maximum interval. **[Setting range : 1sec to 3600sec]**
④ **2nd Trigger**	This item specifies the second trigger to the operation set in [Action] ①. **[Setting values : Off, Input 1 Make, Input 2 Make, Input 1 Break, Input 2 Break]**
⑤ **Action Position No.**	**This item sets the position number to be moved when "Position"** is selected in [Action] ①. **[Setting range : 0 to 99]**
⑥ **Trigger Position No.**	This item sets the position number for trigger when "Position" is selected in [1st Trigger] ②. **[Setting range : 0 to 99]**
⑦ **Mail**	Mail Address : For entering the recipient's mail address. Mail Text : For entering the mail transmission data. Input up to 127 alphanumeric characters. Attach Image : For specifying whether to attach images to the mail.
⑧ **TCP/UDP**	TCP/UDP IP Address : For entering the address when alarm action notification is to be sent via TCP or UDP. (IP or FQDN) TCP/UDP Port Number : For entering the port number when alarm action notification is to be sent via TCP or UDP. (1-65535) TCP/UDP Data : For entering the data to send during TCP or UDP notification. Input up to 127 alphanumeric characters.
⑨ **Alarm Output Duration**	For setting the alarm output time from the alarm output terminal. When this is set to "0", it is not possible to revert back to break (or make) after changing to make (or break). **[Setting range : 0/100msec to 5000msec]**
⑩ **Time Filter**	For specifying the alarm action with respect to each day of the week and setting the corresponding time of the day. Applicable day of week : Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday Alarm action : Mask span Unmask span Mask All Unmask All Applicable time period : For specifying the Start and End time in hours and minutes.

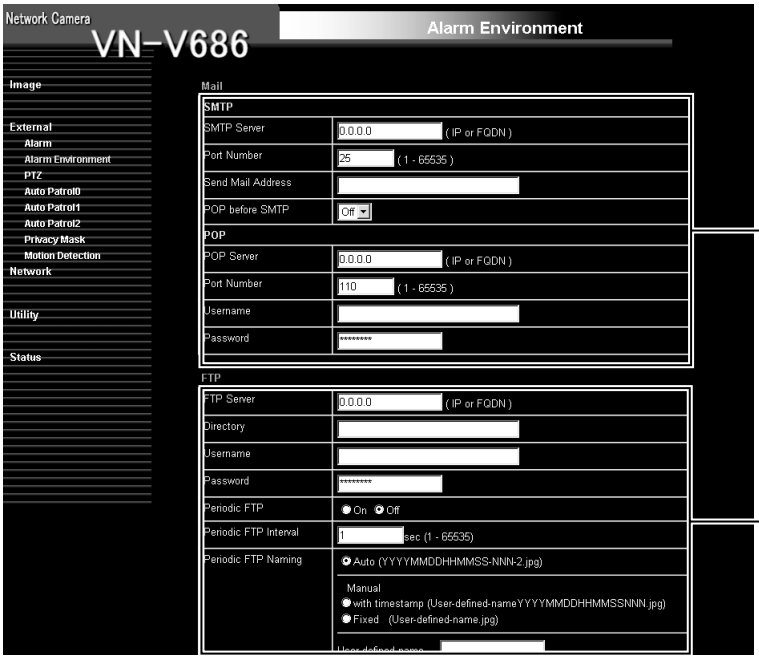
Setting (continued)

Alarm Environment Page

This page is for setting alarm-related environments.

This page can be used during access using “admin” or “operator”.

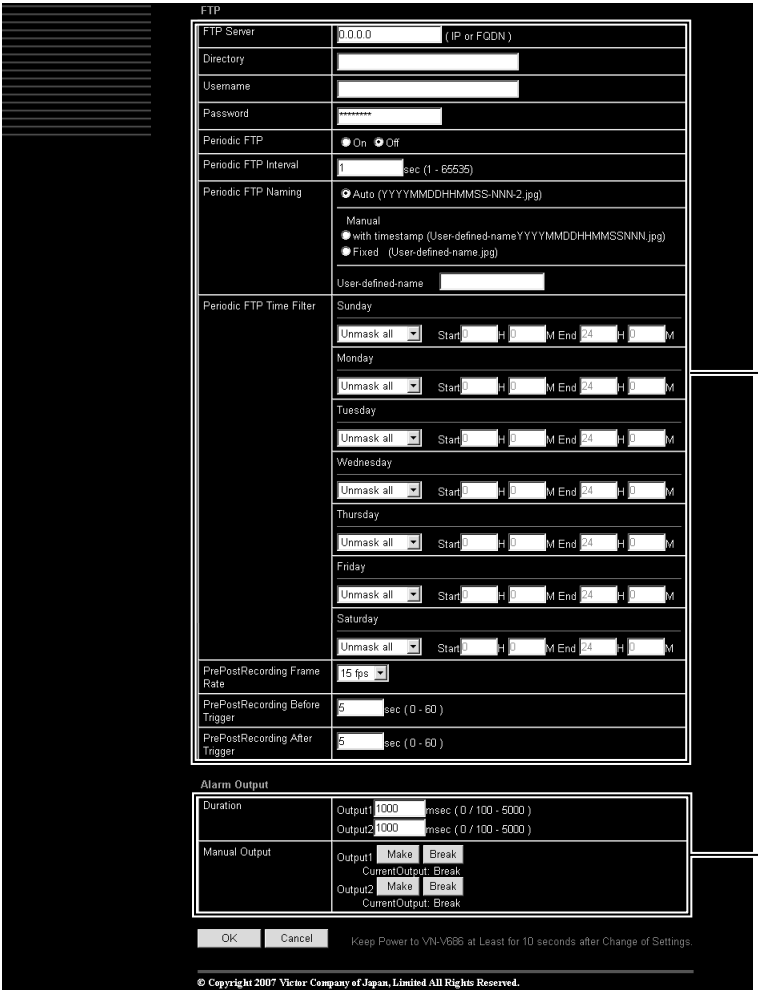
- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.



① **Mail**	For setting the mail environment when "Mail" is specified as an [Action]① on the Alarm page. [SMTP] and [POP] can be used. Configure only the [SMTP] settings under usual circumstances. Enter the camera's mail address as the [Send Mail Address]. Configure the [POP] settings as well if [POP before SMTP] is set to "Off". In addition, if "FQDN" is set for [SMTP Server], configure also the [DNS Server] settings on the Basic page. (☞ Page 67) **Memo:** **What is FQDN (Fully Qualified Domain Name)?** This is a fully qualified domain name that indicates a notation method of describing the entire host or domain name on the TCP/IP network without abbreviating. For example, if the host name is "www" and the domain name is "jvc.co.jp", this will be denoted as "www.jvc.co.jp" in FQDN.
② **FTP**	For setting the FTP environment when "FTP" is specified as an [Action]① on the Alarm page. This is common with the FTP environment when using the periodic FTP on this page. When [Directory] is left blank, FTP transfer will be performed to the home directory of the FTP server. To enable FTP transfer to a directory below the home directory, set the corresponding directory name in [Directory]. Delimit the directory using "/". Example: subdir1/subdir2 Destination directory of FTP transfer will be dependent on the FTP server if "/" is added at the beginning. Setting [Periodic FTP] to "On" enables transfer of the latest JPEG images to the FTP server at regular intervals. Specify the interval in seconds for [Periodic FTP Interval]. File name: Select a type from the two types of periodic FTP file names. When "Auto" is selected, images are generated from the year, month, day, hour, minute, second, and number. Example: 20071114161032-001-2.jpg When "Manual" is selected, you can select a file name generation method from the following. ● File name containing only the character string entered in [User-defined-name] Example: Camera1.jpg ● File name with the year, month, day, hour, minute, and second added to [User-defined-name] Example: Camera1_20071114161032001.jpg The name of the file to be transmitted via FTP is made up of the action number, year, month, day, hour, minute, second, number and trigger flag. Example: 01-20070711152904-001-0.jpg The first two digits are the action number, and the following 14 digits denote the year, month, day, hour, minute and second. The three digits after the first hyphen is the number of the series of JPEG files to be sent via the FTP. The number starts from "000". The last digit denotes the trigger flag. This is displayed as "1" only for the JPEG file during a trigger input, and as "0" if otherwise.

Setting (continued)

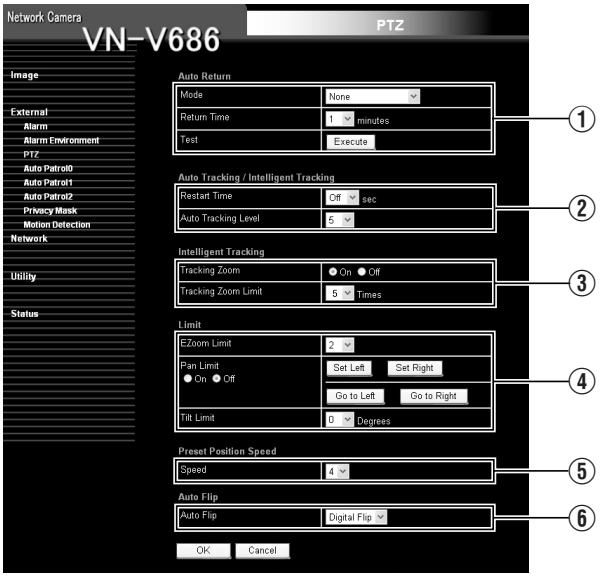
Alarm Environment Page (continued)



② **FTP (continued)**		Time Filter : For specifying the periodic FTP transfer action with respect to each day of the week and setting the corresponding time of the day. Applicable day of week : Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday Alarm action : Mask span Unmask span Mask All Unmask All Applicable time period : For specifying the Start and End time in hours and minutes. Pre-/Post-recording parameter: [PrePostRecording Frame Rate] : For specifying the JPEG frame rate for FTP pre-/post-recording. **[Setting values : 1 fps, 2 fps, 3 fps, 5 fps, 6 fps, 7.5 fps, 10 fps, 15 fps, 30 fps]** [PrePostRecording Before Trigger] : For setting the FTP pre-recording trigger time (recording time before alarm input) in seconds. **[Setting values : 0sec to 60sec]** [PrePostRecording After Trigger] : For setting the FTP post-recording trigger time (recording time after alarm input) in seconds. **[Setting values : 0sec to 60sec]** The maximum time intervals for [PrePostRecording Before Trigger] and [PrePostRecording After Trigger] are determined by the JPEG size on the Encoding page as well as [PrePostRecording Frame Rate]. A message appears if the combination of the entered values are not feasible.
③ **Alarm Output**		For setting the alarm output.
	Duration	For setting the output time of [Manual Output]. **[Setting range : 0 / 100msec to 5000msec]**
	Manual Output	For operating alarm output manually. The current output status appears on the right. When [Duration] is set to "0", pressing the [Make] button switches the alarm to Make output, while pressing the [Break] button switches the alarm to Break output. When [Duration] is set to a value other than "0", pressing the [Make] button switches the alarm to Make output only during the duration of the output, upon which it switches to Break output. When the output duration is set to a value other than "0", pressing the [Break] button switches the alarm to Break output only during the duration of the output, upon which it switches to Make output.

Setting (continued)

PTZ Page



① **Auto Return**		If the camera is not operated over the duration that was set in "Return Time", it will automatically return to the state that was set in "Mode".
	Mode	This item sets the operation after Auto Return. none : Auto Return is disabled. Home : Returns to the home position. Auto Pan : Returns to the Auto Pan operation. Auto Patrol : Returns to the Auto Patrol operation. Auto Trace : Returns to the Auto Trace operation. Auto Tracking : Returns to the automatic tracking operation. Intelligent Tracking : Returns to the intelligent tracking operation.
	Return Time	This item sets the time to return the operation with Auto Return. This feature cannot be configured when the [Mode] is set to "none". **[Setting values : 1 minute, 2minutes, 3minutes, 5minutes, 10minutes, 20minutes, 30minutes, 60minutes]** **Memo:** ● When the [Mode] item is set to "Intelligent Tracking", operation restarts from tracking upon returning to the home position after the Return Time has elapsed. While Intelligent Tracking is in progress, PTZ position may not be changed even if an object is locked. Auto Return starts if PTZ position is not changed for the interval specified under "Return Time" .
	Test	Click [Execute] to test run the configured Auto Return operation.

② **Auto Tracking/ Intelligent Tracking**	This item sets the Auto Tracking and Intelligent Tracking settings. Auto Tracking: Moves to the home position when Auto Return starts. This function automatically tracks and shoots moving objects when motion is detected from the image at the home position. The zoom ratio is fixed at 1x. Intelligent Tracking: There are two modes for Intelligent Tracking; the Auto mode which starts from Auto Return and the Manual mode which specifies the target on the viewer. You can change the tracking target any time by clicking the viewer display area during "Locked" or "Losing". To end, press the [Stop] button on the PTZ Controller screen. ● Auto Mode When Intelligent Tracking is triggerd by Auto Return, motion detection for Intelligent Tracking is started at the home position. If some motion is detected, Inteligent Tracking tracks and shoots the color of the object while applying the Pan/Tilt/Zoom function. You can also specify target by clicking on the viewer screen before motion is detected. ● Manual Mode (☞ Page 111) Select "Intelligent Tracking" for the [Function] item on the PTZ Controller screen, and press the [Start] button to enable "Standby". Click on an object in the viewer screen to specify the target. Intelligent Tracking automatically tracks and shoots the object while applying Pan/Tilt/Zoom. **Memo:** ● Auto tracking may be difficult under the following conditions. ● When multiple moving objects are in the same screen. ● When there is a flickering light source in the screen. ● When the speed of the moving object is too fast or slow. ● When the moving object is too big or small. ● When the object and background have same brightness. ● Intelligent tracking may be difficult under the following conditions. ● Strong backlight ● Colors that are similar to the tracking target are present in the same screen. ● No colors on the tracking target (such as white, gray, black) ● When the tracking target moves into the privacy mask area. ● Intelligent tracking cannot begin under the following conditions. ● [B/W Mode] is set to "Black & White". (☞ Page 43) ● [B/W Mode] is set to "Auto" and black and white is selected. (☞ Page 43) ● [Auto Flip] is set to "Digital Flip". (☞ Page 59) ● All areas of detected motion are masked. (Manual mode is available.) (☞ Page 64) ● The zoom ratio exceeds 20x. (If the zoom ratio of the home position exceeds 20x, Intelligent Tracking by Auto Return can not start.) ● Dark images can be improved with the [Sense Up] (☞ Page 41) function but the tracking may be slow.

Setting (continued)

PTZ Page (continued)

<table>
<tr><td colspan="2">②Auto Tracking/ Intelligent Tracking (continued)</td><td>Note:
● The Auto Tracking function of this camera detects changes in brightness. As such, depending on changes in the illumination, it may or may not detect movement of objects having the same color as the background color. It may be difficult to detect objects with very slow movement. Check the operating conditions thoroughly beforehand and configure the settings such that there will not be any misoperation or omission of detection.
● This function starts from home position and initial detect area is the screen of the home position without enlargement by [Stabilizer] (☞ Page 40). When [Stabilizer] is set to “On”, as the screen is enlarged, it will also respond to motion of image which is not shown on the screen. This is the specification of this unit, not a malfunction.</td></tr>
<tr><td></td><td>Restart Time</td><td>Auto Tracking:
This item sets the duration to return to the home position when there is no movement in the images after auto tracking starts.
Intelligent Tracking:
When Intelligent Tracking loses the object, you can return to the home position after the preset [Restart Time] has elapsed. For Intelligent Tracking, the camera does not return to home position while the object is locked even if the object does not move.
[Setting values : Off, 10seconds, 20seconds, 30seconds, 40seconds, 50seconds, 60seconds, 120seconds]
Note:
● When the [Mode] item of [Auto Return]① is set to “Auto Tracking” and the [Return Time] is set shorter than the [Restart Time] for [Auto Tracking]②, the camera will operate according to the [Return Time].</td></tr>
<tr><td></td><td>Auto Tracking Level</td><td>This item sets the detection sensitivity of Auto Tracking/Intelligent Tracking.
To lower the sensitivity ➡ Decrease the number
To increase the sensitivity ➡ Increase the number
[Setting range : 0 to 10]</td></tr>
<tr><td colspan="2">③ Intelligent Tracking</td><td>This item sets the zoom for [Intelligent Tracking].</td></tr>
<tr><td></td><td>Tracking Zoom</td><td>When this item is set to “On”, the zoom ratio changes according to the movement of the object.</td></tr>
<tr><td></td><td>Tracking Zoom Limit</td><td>When [Tracking Zoom] is set to “On”, this item sets the threshold limit of the zoom ratio. When Intelligent Tracking is started, tracking is possible if the zoom ratio is within 20x, even if the current zoom ratio has exceeded the [Tracking Zoom Limit]. In that case, behaviour of automatic zoom changes according to the [Tracking Zoom] setting as followings.
● [Tracking Zoom] is “On”:
Tracking starts at the current zoom ratio. If the [Tracking Zoom Limit] is exceeded, the camera moves in the WIDE direction but not in the TELE direction. Once the zoom ratio enters the [Tracking Zoom Limit], the camera will zoom within the configured tracking zoom limit.
● [Tracking Zoom] is “Off”:
The camera tracks objects at the current zoom ratio. The zoom ratio will not change.</td></tr>
</table>

④ Limit	
EZoom Limit	When the zoom lens is operated to TELE side, optical zoom works and electronic zoom works after optical zoom becomes full. This item sets the maximum value of the electronic zoom function. **[Setting range : Off, 1, 2, 4, 8, 16, 32]** **Memo:** ● As electronic zoom processes the images digitally, image quality will deteriorate somewhat. ● Increasing the electronic zoom ratio will shift the center of the screen toward the top left. This is a characteristic of this camera and is not a malfunction. ● The camera will not operate continuously from optical zoom to electronic zoom. When the optical zoom is full,release and press again the [+] button of [Zoom] in [PTZ Controller]. [PTZ Controller Operation] (☞ Page 106)
Pan Limit	This item sets the movable range of the pan (horizontal) operation during manual operation when "On" is selected. It is invalid when "Off" is selected. [Set Left], [Set Right] button : Click these buttons to set the current position to the left or right edge respectively. [Go to Left], [Go to Right] button : Click these buttons to move the camera to the predetermined edge (left or right). **Memo:** ● It does not affect the Preset Position, Auto Pan and Auto Trace operations. ■ **Basic operation of Pan Limit** When [Pan Limit] is set to "On", panning is only available in the effective area. When the camera is moved to prohibited area by some operation that has priority over [Pan Limit] and manual panning is performed, it operates in the following manner. ● Panning can be operated freely even in the prohibited area before the camera enters the effective area. ● Once the camera enters the effective area, the [Pan Limit] settings take over and pan operation can only be performed in the effective area. ● **Operations that have priority over Pan Limit** The following operations are available regardless of the prohibited areas set in [Pan Limit]. ● Auto Pan ● Auto Trace ● Move Preset Position ● Auto Flip ● Auto Tracking ● **Settings that have priority over Pan Limit** The following settings come together with pan operation but they can be set regardless of the prohibited areas even when [Pan Limit] is set to "On". ● Privacy Mask Setting ● Auto Pan setting **Memo:** ● When setting Auto Trace and Preset Position and the [Pan Limit] setting is "On", panning is unavailable in the prohibited area. ● As Auto Trace and Move Preset Position have priority over manual pan limit, setting pan limit after setting Auto Trace or Preset Position does not prevent Auto Trace or Preset Position operation.

Setting (continued)

PTZ Page (continued)

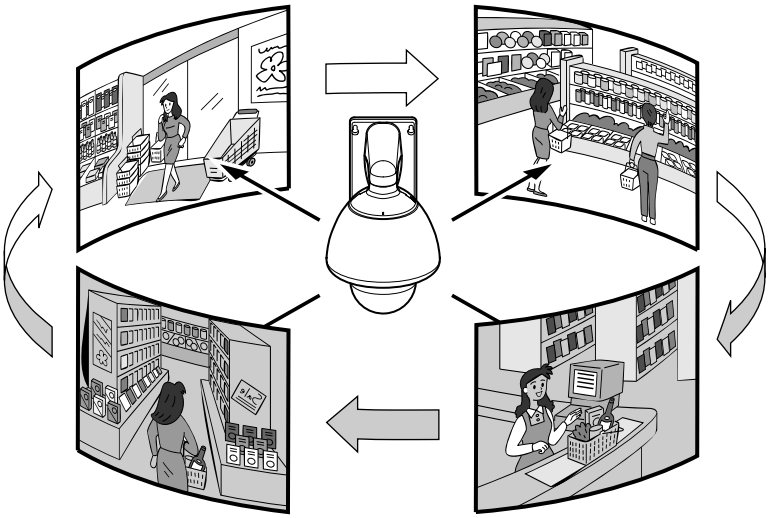
<table>
<tr><td colspan="2">③Limit (continued)</td></tr>
<tr><td></td><td>Tilt Limit</td><td>This item sets the movable range of the tilt (vertical) operation during manual operation.
When this item is set to 10, the movable range of the tilt operation is from 10 to 90 degrees. It cannot operate between -5 and 9 degrees.
[Setting range : -5 Degrees to 0 degree to 10 Degrees]
Memo:
● When the camera is moved to prohibited area by some operation that has priority over tilt limit and tilt operation is performed manually, it operates in the following manner.
●Tilt operation is disabled in the prohibited area. Tilt will be forcibly moved to the effective area.
●Once the camera enters the effective area, the tilt limit settings take over and tilt operation can only be performed in the effective area.
● It does not affect the Preset Position, Auto Pan and Auto Trace operations.</td></tr>
<tr><td>⑤</td><td>Preset Position Speed</td><td rowspan="2">This item sets the speed of moving to the preset position. It is also applicable when moving to the preset position in Auto Patrol.
[Setting values : 1 to 4]</td></tr>
<tr><td></td><td>Speed</td></tr>
</table>

⑥ **Auto Flip**	Set this item when shooting objects that pass right under the camera. Otherwise, following operations are necessary to shoot objects that pass right under the camera. ①Turn the camera to face down ②Rotate the camera 180 ° horizontally ③Turn the camera to face up You can use the [Auto Flip] function to perform the above operations automatically. Off : Auto Flip function does not activate. Digital Flip : The top/bottom and left/right of the image flips when tilt position passed the angle of 135 degrees. Mode1 : When the camera faces bottom, it rotates 180 ° horizontally and stops. In this case, the operating direction of the camera is the same as that of the Pan/Tilt operation. Mode2 : When the camera faces bottom, it rotates 180 ° horizontally and the operating direction of the camera is opposite that of the Tilt operation. Select this mode if you wish to operate continuously. Once operation stops, the direction will return to normal. Mode3 : When the camera faces bottom, it rotates 180 ° horizontally and the operating direction of the camera is opposite that of the Tilt operation. However, the operating direction will return to normal 10 seconds after the operation has stopped. **[Setting values : Off, Digital Flip, Mode1, Mode2, Mode3]** **Memo:** ● [Intelligent Tracking] is disabled when "Digital Flip" is selected. (☞ Page 55) ● Settings for [Preset Position Speed] are reflected in the rotation speed when images are flipped using "Mode1", "Mode2", "Mode3". To flip images in high speed using "Mode1", "Mode2", "Mode3", set the [Speed] in [Preset Position Speed] to "4". **Note:** ● When [Auto Flip] is set to other than "Off", the camera can be moved to areas outside the pan limit with the Tilt operation. When "Digital Flip" is set, use the Tilt operation to flip and return to the pan limit area again. When "Mode1", "Mode2" or "Mode3" is set and the camera is moved to inside of the pan limit with Pan operation, it will stop at the pan limit position.

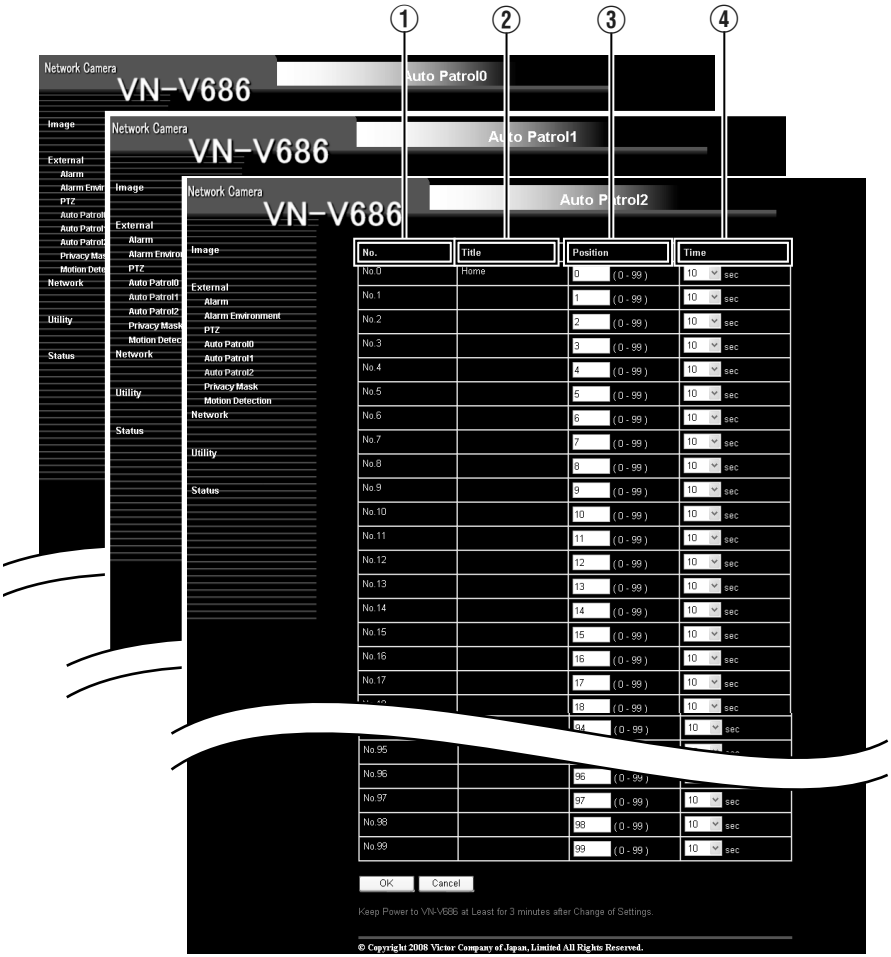
Setting (continued)

Auto Patrol Page

This function sets the Auto Patrol operation which patrols multiple positions at specified time intervals. You can set the order in which to view the determined positions.



There are three screens in Auto Patrol.



① **No**	This is sequence number of the mode of Auto Patrol.
② **Title**	This displays the title of the position.
③ **Position**	This sets the position number to be moved in sequence. **[Setting values : 0 to 99]**
④ **Time**	This sets the duration of staying at the position. (Unit: Seconds) **[Setting range : Skip, 10 sec, 20 sec, 30 sec, 45 sec, 60 sec, 120 sec]**

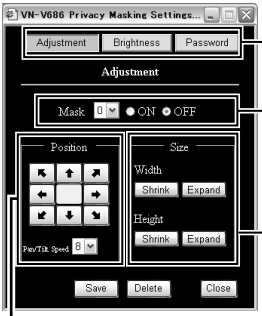
Setting (continued)

Privacy Mask Page

Privacy Mask is a feature that enables masking of a portion of the image.
You can set 8 rectangular privacy masks for VN-V686WPU.

This page can be used during access using “admin” or “operator”.

- Press the [OK] button to enable the new settings.

① **Privacy Mask**	For specifying whether to activate the Privacy Mask feature. When this is set to "On", the privacy mask specified using the following items will appear on the screen. **Memo:** ● When setting privacy mask, zoom will be at the Wide edge and [Digital Flip] is set to "Off".
② **Adjustment**	This item adjusts the mask. Click this item to open the [Adjustment] screen. To change the setting, first, enter [Operator Password] in the [Password] screen. (☞ Page 34) If the [Operator Password] was entered already to setting page of Built- in Viewer, it will be displayed as ●●●●●. ■ [Adjustment] screen  ❶ **[Adjustment], [Brightness], [Password] tab** Each setting screen appears. ❷ **[Mask]** When "Off" is selected, mask will not be displayed on the screen. **[Setting values : 0 to 7]** ❸ **[Size]** This item sets the size of the mask. Use the [Shrink] or [Expand] button to set the "Hight" or "Width" of the mask. ❹ **[Position]** This sets the position to place the mask. Set the moving speed in [Pan/Tilt Speed]. **[Setting value : 1 to 8]** ■ [Brightness] screen This item sets the brightness (color) of the mask. "0" is black. The larger the number is, the closer the color is to white. When the number is "10", the color is white. You can check the color at [Image]. **[Setting values : 0 to 10]** ■ [Password] screen Enter the "Operator Password". (☞ Page 34)

Note:

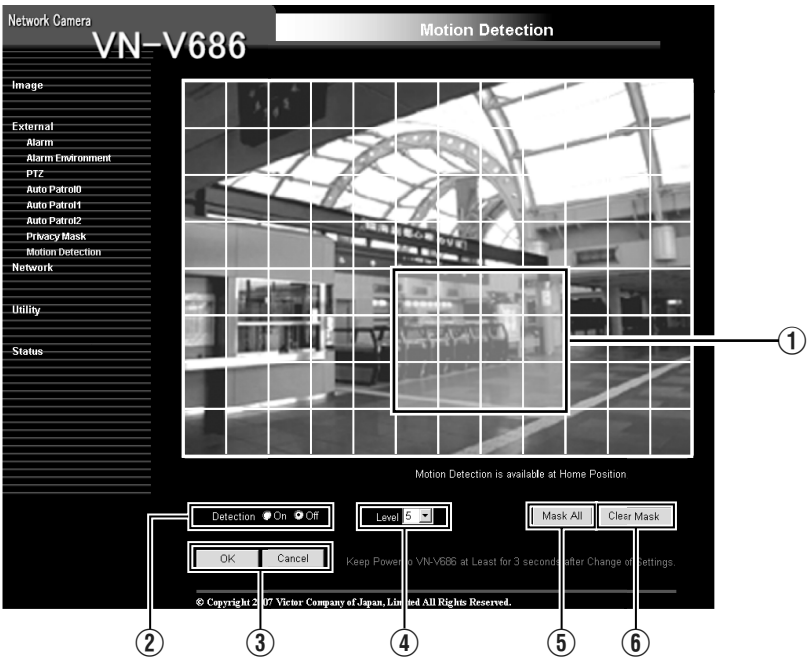
- The tilt angle where mask can be set is within 40 degrees from the horizontal position.
- To change the privacy mask position to upper area from horizontal direction, press the up button until the end of the horizontal position, release the button, and press it again. Only the privacy mask will be moved to upper area. This will set the privacy mask at the area above the shallow horizontal position.
- The mask will appear larger than when it is set. If some area that you wish to hide appear due to the camera direction or zoom, set the mask larger.
- The default home position is outside the range of the privacy mask.
- When the [Adjustment] window is first opened in the computer, ActiveX will be installed.

Setting (continued)

Motion Detection Page

This page is for setting motion detection.

- The area valid for motion detection is displayed in blue.
- When motion is detected, the image screen edge is displayed in red.
- Information of the configured mask is also applicable for detecting the tracking target of Intelligent Tracking, which starts from Auto Return. (☞ Page 55)



① **Display Screen**	The screen is divided into blocks of 12 (horizontal) x 8 (vertical). Use this to set whether to mask each block. All blocks are masked in the default setting. The block turns blue when it is clicked, indicating that it is unmasked. Click again to return to the masked state. Press the [OK] button to enable this setting. Use the [Mask All] button to mask all blocks. Use the [Clear Mask] button to unmask all blocks.
② **Detection**	For setting the On/Off of [Detection]. Press the [OK] button to enable this setting. Motion detection does not work during [Auto Tracking/Intelligent Tracking] (☞ Page 55).
③ **OK/Cancel**	To apply the new parameters, press the [OK] button. Press the [Cancel] button to cancel the change.
④ **Level**	For setting the sensitivity of motion detection. Increasing the number raises the detection sensitivity level, and hence it is more sensitive. Press the [OK] button to enable this setting. **[Setting values : 0 to 10]**
⑤ **Mask All**	Masks all blocks. Press the [OK] button to enable this setting.
⑥ **Clear Mask**	Unmasks all blocks. Press the [OK] button to enable this setting.

Memo:

- The area display position serves as a reference. Make sure to perform operation check.
- The screen is divided into blocks of 96 (12 horizontal x 8 vertical). Set the angle of view such that the size of the object for which motion is to be detected is larger than the size of multiple blocks.
- When [Stabilizer] is set to "On", the image is zoomed to 1.3 times. Thus, the number of blocks displayed on the motion detection setting screen becomes 48 (8 horizontal x 6 vertical). (☞ Page 40)

Note:

- Flickers of fluorescent lamps may cause motion detection.
- Changes in brightness due to the light source may be detected as motion.
- The motion detection feature is not intended to prevent theft or fire. This feature may not function properly depending on the conditions of the object and settings.

  Our company shall not be liable for any accident or damage that occurs.
- When other client is getting JPEG/MPEG4 stream from the VN-V686WPU, video images may not appear on the [Motion Detection] page due to the maximum distribution limit of VN-V686WPU. Stop other clients before using the [Motion Detection] page.

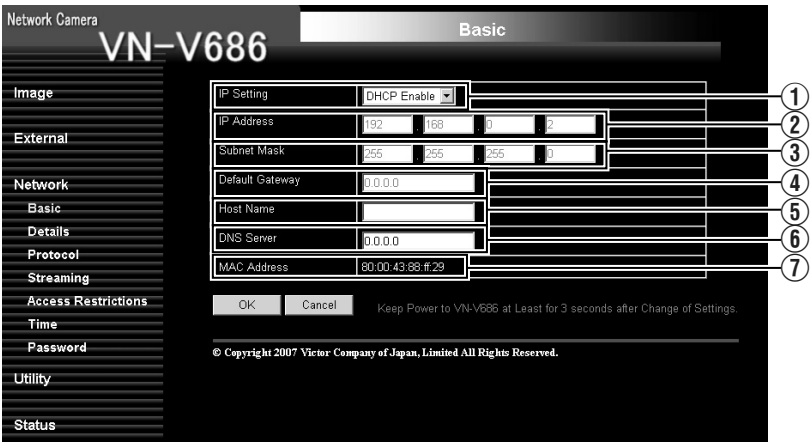
Setting (continued)

Basic Page

This page is for performing basic setting related to the network.

This page can be used during access using “admin”.

- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.
- When settings of the Basic page is changed, all services that are currently running will end immediately. For example, when changes are made to the Basic page during JPEG/MPEG4 distribution, distribution will be discontinued and TCP will be disconnected.



① **IP Setting**	For setting the DHCP client function. Connect VN-V686WPU to a network environment with a DHCP server when DHCP is to be enabled. If the DHCP server does not exist when DHCP is set to "Enable", VN-V686WPU will start running with the 192.168.0.2 IP address and 255.255.255.0 subnet mask in about 2 minutes after startup. Refer to [IP Address Settings] (☞ Page 26) for the IP address.
② **IP Address**	For setting the IP address of VN-V686WPU.
③ **Subnet Mask**	For setting the subnet mask of VN-V686WPU.
④ **Default Gateway**	For setting the default gateway of VN-V686WPU. Set as "0.0.0.0" when a default gateway is not set.
⑤ **Host Name**	For setting the host name of VN-V686WPU. Specify a name using alphanumeric characters, hyphen (-) or period (.). Underscores (_) cannot be used.
⑥ **DNS Server**	For setting the address of the DNS server.
⑦ **MAC Address**	The MAC address of VN-V686WPU is displayed in a hexadecimal number.

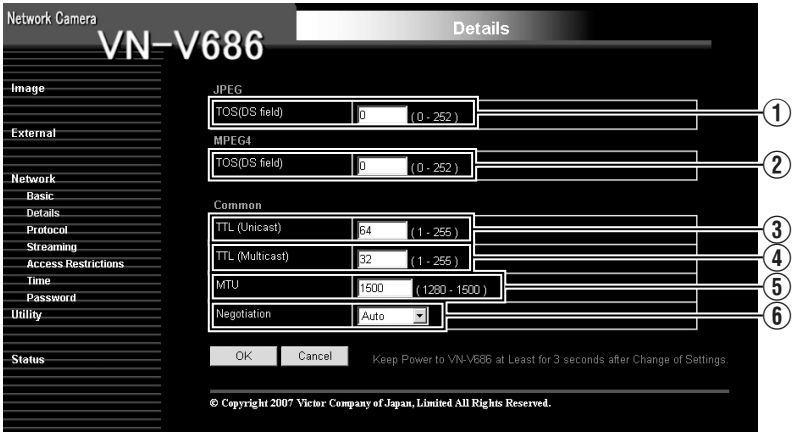
Setting (continued)

Details Page

This page is for performing detailed network setting.

This page can be used during access using “admin”.

- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.



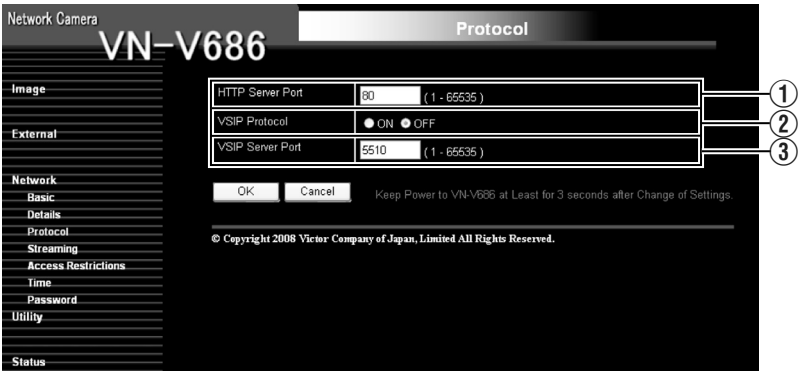
① **JPEG TOS(DS field)**	For setting the TOS value of IP packets in which JPEG is stored. The upper six bits out of the eight bits that make up the TOS value belong to DSCP. This upper six bits can be set. The lower two bits are “0”. For example, upon setting to “255”, the lower two bits are converted to “0”, and the value becomes “252”. TOS values are used in networks that support QoS. By setting QoS for the network switch, routing can be done by giving priority to packets with a larger TOS value.
② **MPEG4 TOS(DS field)**	For setting the TOS value of IP packets in which MPEG4 is stored. For details, refer to the [JPEG TOS(DS field)] item ① above.
③ **TTL (Unicast)**	For setting the TTL value of JPEG/MPEG4 packets that are to be sent via TCP.
④ **TTL (Multicast)**	For setting the TTL value of JPEG/MPEG4 packets that are to be sent via multicast.
⑤ **MTU**	For setting the maximum packet size for storing JPEG/MPEG4. **[Setting range : 1280 to 1500]**
⑥ **Negotiation**	For setting the negotiation of the network. When a value other than “Auto” is selected, do not set the network device to be connected to “Auto”. Ensure that it is set to the same value as VN-V686WPU.

Protocol Page

This page is for changing the HTTP server port number, VSIP server status, and VSIP server port number.

This page can be used during access using “admin”.

- Press the [OK] button to enable the new settings.
- After changing, you will need to re-establish the connection if you are using the Internet Explorer.



① **HTTP Server Port**	You can change the port number for Built-in web server of VN-V686WPU. (1-65535) The default port number setting is “80”. The port number of JPEG/MPEG4 server is changed also. To access to VN-V686WPU from the Internet Explorer, enter the following in the Internet Explorer when the camera is in its default settings. http://192.168.0.2 If the port number is changed to “8080”, for example, enter the Internet Explorer as follows. http://192.168.0.2:8080
② **VSIP Protocol**	You can change the On/Off setting of VSIP Protocol. To use this unit from Nextiva of Verint Systems Inc., select “On”.
③ **VSIP Server Port**	You can change the port number for Built-in VSIP server of VN-V686WPU. (1-65535) The default port number setting is “5510”.

Memo:

- If Built-in Viewer is used for playback, change the [HTTP Port] number in the setting screen of Built-in Viewer to the same value. (☞ Page 97)(☞ Page 102)

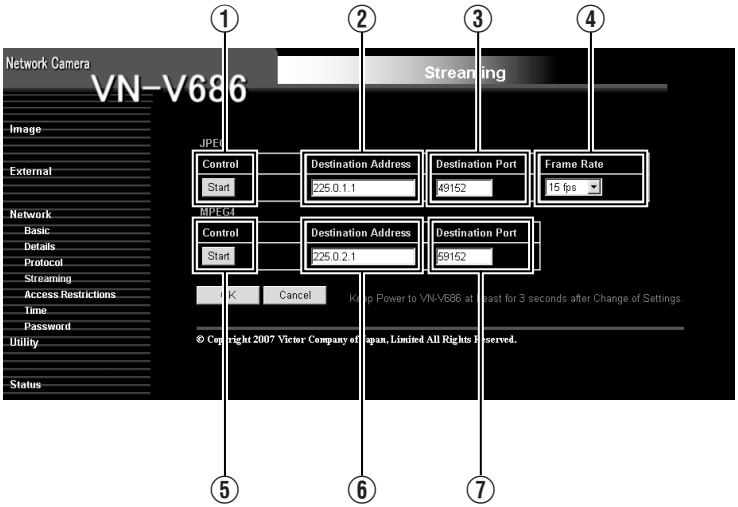
Setting (continued)

Streaming Page

This page is for setting manual multicast transmission.

This page can be used during access using “admin” or “operator”.

- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.



JPEG	
① **Control**	For starting or stopping streaming of JPEG images. Parameters that are set on the [Streaming] page will be saved when transmission is started upon pressing the [Start] button.
② **Destination Address**	For specifying the destination address of JPEG streaming. Specify the multicast address. When other devices that make use of multicast transmission exist, ensure that each of them is set to a different multicast address.
③ **Destination Port**	For specifying the destination port number of JPEG streaming. Specify an even number for RTP compliance. When other devices that make use of multicast transmission exist, it is recommended that each of them be set to a different port number. Multiple multicast streams cannot be received on a single computer when there are duplicate port numbers.
④ **Frame Rate**	For specifying the frame rate when sending JPEG images via multicast.
MPEG4	
⑤ **Control**	For starting or stopping streaming of MPEG4 images. Parameters that are set on the [Streaming] page will be saved when transmission is started upon pressing the [Start] button.
⑥ **Destination Address**	For specifying the destination address for MPEG4 streaming. Specify the multicast address. When other devices that make use of multicast transmission exist, ensure that each of them is set to a different multicast address.
⑦ **Destination Port**	For specifying the destination port number for MPEG4 streaming. Specify an even number for RTP compliance. When other devices that make use of multicast transmission exist, it is recommended that each of them be set to a different port number. Multiple multicast streams cannot be received on a single computer when there are duplicate port numbers.

Memo:

- When the power of VN-V686WPU shuts down accidentally during multicast transmission, multicast transmission will restart automatically after VN-V686WPU is rebooted.

Setting (continued)

Access Restrictions Page

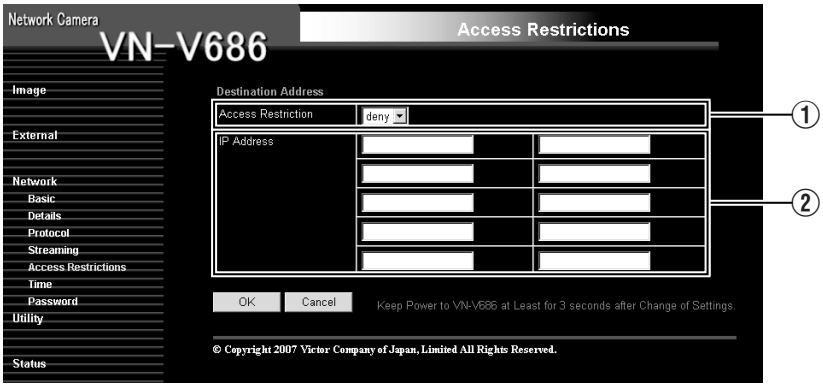
This page is for setting client restrictions.

This page can be used during access using “admin”.

- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.
- This feature is targeted at JPEG/MPEG4 acquisition. It does not impose restrictions on access via a web browser or use of API.

Note:

- The Access Restriction feature determines whether to impose restrictions during TCP connection by the client. In the case when access restriction is set after TCP connection by a client has been established, TCP connection will not be disconnected.



Destination Address		Restrictions may be imposed on clients accessing VN-V686WPU using the IP address.
	① **Access Restrictions**	When "deny" is selected, acquisition of JPEG/MPEG4 via the IP address specified for the [IP Address] item ② will be denied. Restrictions are not imposed on access to the Web Settings page. When "allow" is selected, acquisition of JPEG/MPEG4 via the IP address specified for the [IP Address] item ② will be permitted. Restrictions are not imposed on access to the Web Settings page.
	② **IP Address**	When a multicast address is specified and "deny" is selected, VN-V686WPU will deny transmission to this multicast address. When a multicast address is specified and "allow" is selected, VN-V686WPU will only accept transmission to this multicast address and deny transmission to multicast addresses that are not stated in the [IP Address] item ② field.

Note:

- Note that when "allow" is selected and all IP address fields are left blank, JPEG/MPEG4 acquisition by all IP addresses will be denied. Restrictions are not imposed on access to the Web Settings page.

  Additionally, VN-V686WPU will also deny access when instructions for transmission to the specified IP address are sent via API.

Memo:

- To specify a specific IP address range, enter a combination of the IP address and subnet mask in the [IP Address] item ② field.
- Define the subnet mask using a length between 8 to 30 bits.

  For example, a range between 192.168.0.0 to 192.168.0.255 is denoted as 192.168.0.0/24 ([IP Address]/[bit length of subnet mask]).

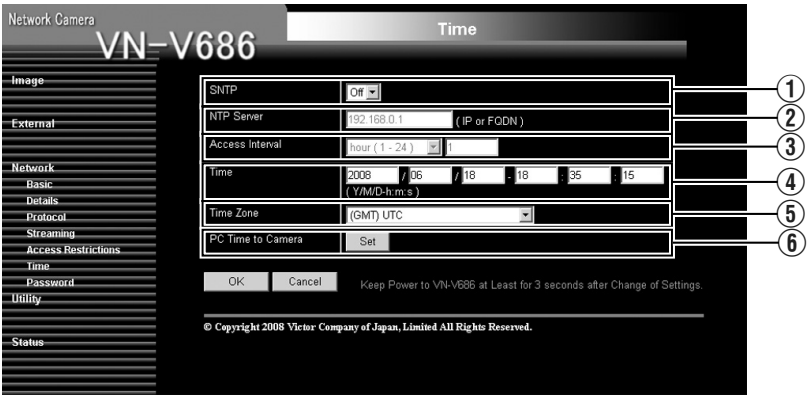
Setting (continued)

Time Page

This page is for setting time.

This page can be used during access using “admin”.

- Press the [OK] button to enable the new settings.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.



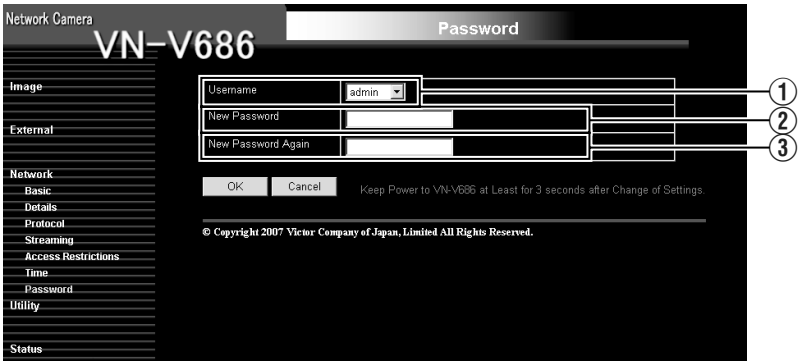
① **SNTP**	For setting the SNTP client feature. When this is set to “On”, the system accesses the specified NTP server at regular intervals to acquire the time. In addition, time will be recorded in the JPEG headers distributed by VN-V686WPU. Discontinuity in JPEG header’s time may occur immediately before and after acquiring time from the NTP server.
② **NTP Server**	For setting the IP address of the NTP server.
③ **Access Interval**	For setting the time interval for access to the NTP server.
④ **Time**	Displays the time on the clock of VN-V686WPU. The clock time can be changed by entering an appropriate value. (Second value cannot be specified.) In addition, time will be recorded in the JPEG headers distributed by VN-V686WPU. Discontinuity may occur in the JPEG header’s time immediately before and after changing the time.
⑤ **Time Zone**	For setting the time zone.
⑥ **PC Time to Camera**	Click [Set] to load the time from the computer that is currently in use.

Password Page

This page is for setting the password.

This page can be used during access using “admin”.

- Press the [OK] button to enable the new settings.



① **Username**	Select a user name.
② **New Password**	Enter a new password. Passwords shall be at least 4 characters and not longer than 16 characters. VN-V686WPU is case sensitive.
③ **New Password Again**	Enter again to confirm the new password.

Note:

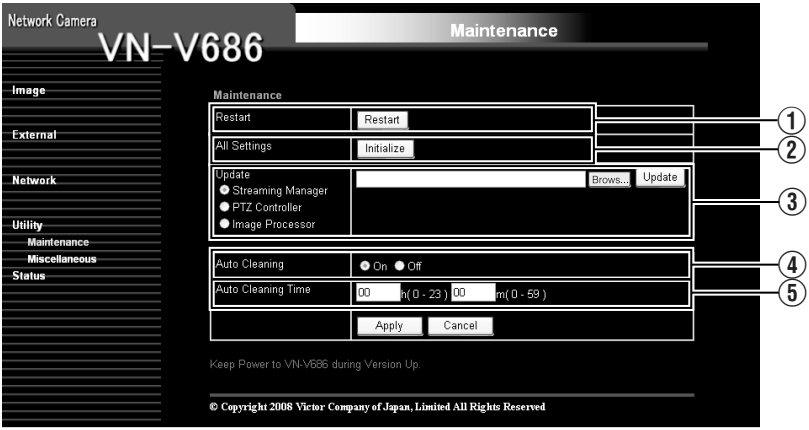
- Be sure to handle the password carefully in case you forget it.
- If you have forgotten the password, please consult your nearest JVC dealer.

Setting (continued)

Maintenance Page

This page is for maintenance purposes.

This page can be used during access using “admin”.



① **Restart**	Reboots the camera. (It takes a few minutes for the camera to reboot.)
② **All Settings** [Initialize]	Restores all settings to their default values and reboots the unit. (It takes about one minute for the camera to initialize and reboot.) Passwords will also be initialized. The built-in clock of VN-V686WPU will not be affected. JPEG/MPEG4 transmission and all other services that are running will be discontinued.
③ **Update**	Upgrades the firmware version of VN-V686WPU and reboots the unit. Select the update target from [Streaming Manager], [PTZ Controller] or [Image Processor]. The settings of VN-V686WPU will be saved. Copy the new firmware file to the computer on which Internet Explorer is used, and specify this file using the [Browse...] button. Press the [Update] button to start the update. JPEG/MPEG4 transmission and all others services that are running will be discontinued. The update process may take several minutes. A message will be displayed on the Internet Explorer when update is successfully completed. **Note:** ● Do not turn off the power when update is in progress or during reboot after update is complete. Turning off the power of the camera may cause it to malfunction.
④ **Auto Cleaning**	This item sets whether to automatically clean the power and signal transmission components. **Note:** ● When the camera has stopped at the pan position for more than 7 days, it will pan at the specified time and perform cleaning automatically.
⑤ **Auto Cleanig Time**	This item sets the time to start cleaning. To change the setting, enter the time and click the [Apply] button. **[Setting values : 0-23 h, 0-59 m]**

Setting (continued)

List of Factory Settings of Each Page

■ Camera Page

Item	Factory Settings
Camera ID	VN-V686
Monitor Type	Custom
Black Level	1
Gamma	1
Active Gamma Level	0
Enhance Frequency	High
Enhance Level	0
Color Level	0
Stabilizer	Off
Stabilizer Level	Mid
Noise Reduction	Off
AGC	Mid
Sense Up	Off
ALC Priority	Motion
Shutter Speed	1/60
B/W Mode	Color
IR Preset AF	Off
Light	Normal

■ Encoding Page

Item	Factory Settings
JPEG Frame Size	VGA
MPEG4 Frame Size	VGA
JPEG Quality	VFS4
MPEG4 Bitrate	2000 kbps
MPEG4 Bitrate Control	CBR
MPEG4 FPS	15 fps
MPEG4 I Frame Interval	30
MPEG4 Priority	FPS

■ Alarm Page

Item	Factory Settings
Action	Disable
1st Trigger	Input 1 Make
Max. Interval	—
2nd Trigger	Disable
Action Position No.	—
Trigger Position No.	—
Mail Text	—
Attach Image	Off
TCP/UDP IP Address	—
TCP/UDP Port Number	—
TCP/UDP Data	—
Alarm Output Duration	—
Time Filter	Unmask All

■ Alarm Environment Page

Item	Factory Settings
SMTP Server	0.0.0.0
Port Number	25
Send Mail Address	—
POP before SMTP	Off
POP Server	0.0.0.0
Port Number	110
Username	—
Password	—
FTP Server	0.0.0.0
Directory	—
Username	—
Password	—
Periodic FTP	Off
Periodic FTP Interval	1
Periodic FTP Time Filter	Auto
Periodic FTP Time Filter	Unmask All
PrePostRecording Frame Rate	15 fps
PrePostRecording Before Trigger	5 sec
PrePostRecording After Trigger	5 sec
Duration	1000 msec
Manual Output Output1	Break
Manual Output Output2	Break

■ PTZ Page

Item	Factory Settings
Mode	none
Return Time	1 minute
Auto Tracking/Intelligent Tracking Restart Time	Off
Auto Tracking/Intelligent Tracking Auto Tracking Level	5
Tracking Zoom	On
Tracking Zoom Limit	10 Times
EZoom Limit	2
Pan Limit	Off
Tilt Limit	0 degree
Preset Position Speed	4
Auto Flip	Digital Flip

Setting (continued)

List of Factory Settings of Each Page (Cont'd)

■ Auto Patrol Page

Item	Factory Settings
Position	(Preset position number)
Time	10

■ Privacy Mask Page

Item	Factory Settings
Privacy Mask	Off
Mask 0 to 7	Off
Brightness	4
Password	—

■ Motion Detection Page

Item	Factory Settings
Mask	Clear Mask
Detection	Off
Level	5

■ Basic Page

Item	Factory Settings
IP Setting	DHCP Enable
IP Address	192.168.0.2
Subnet Mask	255.255.255.0
Default Gateway	192.168.0.254
Host Name	vn-v686
DNS Server	0.0.0.0

■ Details Page

Item	Factory Settings
JPEG TOS	0
MPEG4 TOS	0
TTL (Unicast)	64
TTL (Multicast)	32
MTU	1500
Negotiation	Auto

■ Protocol Page

Item	Factory Settings
HTTP Server Port	80
VSIP Protocol	Off
VSIP Server Port	5510

■ Streaming Page

Item	Factory Settings
JPEG Destination Address	225.0.1.1
JPEG Destination Port	49152
JPEG Frame Rate	15 fps
MPEG4 Destination Address	225.0.2.1
MPEG4 Destination Port	59152

■ Access Restrictions Page

Item	Factory Settings
Access Restrictions	deny
IP Address	—

■ Time Page

Item	Factory Settings
SNTP	Off
NTP Server	192.168.0.1
Access Interval	hour,1
Time Zone	(GMT)UTC

■ Password Page

Item	Factory Settings
Username	“admin”
Current Password	Blank Default passwords are: “admin” : vn-v686 “operator” : vn-v686 “user” : vn-v686

Setting (continued)

Miscellaneous page

This page is for acquiring information.

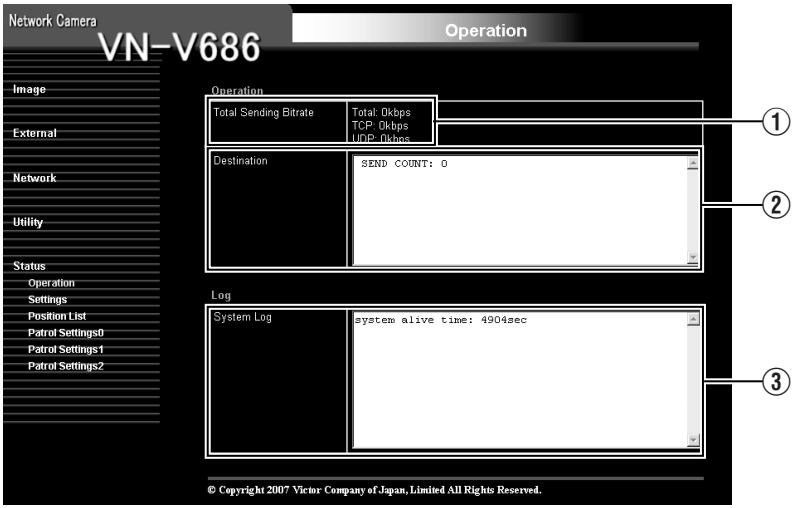
This page can be used during access using “admin”, “operator” and “user”.

① **Open Source Software**	Press the [Show] button to display information of the software used by VN-V686WPU.

Operation Page

Displays the operating status of VN-V686WPU.

This page can be used during access using “admin” or “operator”.



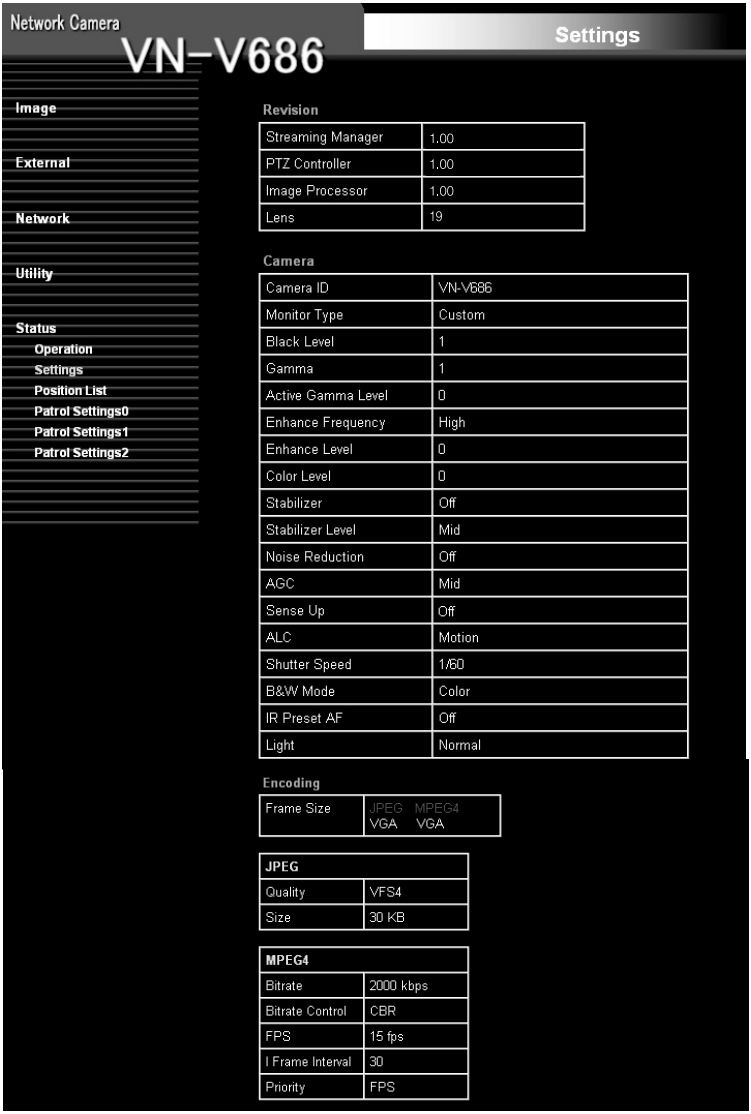
① **Total Sending Bitrate**	Displays the total TCP/UDP bit rate sent by VN-V686WPU as well as the individual bit rates.
② **Destination**	Displays the destination that VN-V686WPU is sending data to.
③ **System Log**	Displays the following information. ● Number of seconds after startup ● Alarm information

Setting (continued)

Settings Page

This page displays the version information and settings of VN-V686WPU.

This page can be used during access using “admin” or “operator”.



Alarm Setting

No.	Trigger / Action	
01	Trigger	--------
	Action	Off
02	Trigger	--------
	Action	Off
03	Trigger	--------
	Action	Off
04	Trigger	--------
	Action	Off
05	Trigger	--------
	Action	Off

Alarm Environment

Mail	SMTP (SMTP Server: 0.0.0.0) SMTP (Port Number: 25) Send Mail Address : SMTP (POP before SMTP: Off) POP (POP Server: 0.0.0.0) POP (Port Number: 110) POP (Username:)
FTP	FTP Server: 0.0.0.0 Directory: Username: Periodic FTP: Off Periodic FTP Interval: 1 Periodic FTP Naming: Auto PrePostRecording Frame Rate: 15 fps PrePostRecording Before Trigger: 5 sec PrePostRecording After Trigger: 5 sec
Alarm Output	Output1 Duration : 1000 msec Output2 Duration : 1000 msec

PTZ

Auto Return	
Mode	None
Return Time	1 minutes

Auto Tracking / Intelligent Tracking	
Restart Time	Off
Auto Tracking Level	5

Intelligent Tracking	
Tracking Zoom	On
Tracking Zoom Limit	10 Times

Limit	
EZoom Limit	2
Pan Limit	Off
Tilt Limit	0 Degrees

Preset Position Speed	
Speed	4

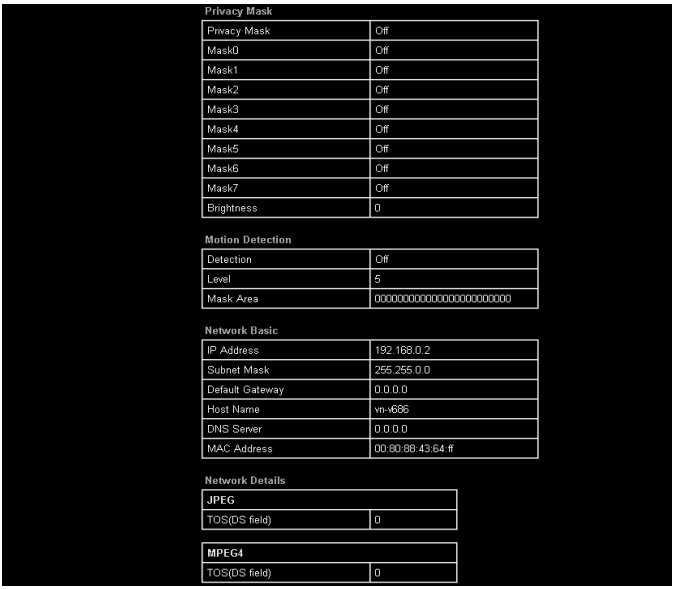
Auto Flip	
Auto Flip	Digital Flip

Privacy Mask

Privacy Mask	Off
Mask0	Off
Mask1	Off
Mask2	Off
Mask3	Off
Mask4	Off
Mask5	Off
Mask6	Off
Mask7	Off
Brightness	4

Setting (continued)

Settings Page (continued)



Privacy Mask

Privacy Mask	Off
Mask0	Off
Mask1	Off
Mask2	Off
Mask3	Off
Mask4	Off
Mask5	Off
Mask6	Off
Mask7	Off
Brightness	0

Motion Detection

Detection	Off
Level	5
Mask Area	000000000000000000000000

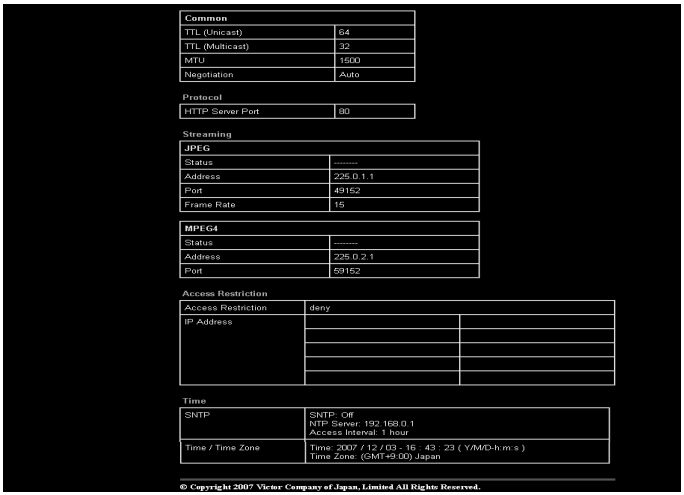
Network Basic

IP Address	192.168.0.2
Subnet Mask	255.255.0.0
Default Gateway	0.0.0.0
Host Name	vn-v686
DNS Server	0.0.0.0
MAC Address	00:80:88:43:64:ff

Network Details

JPEG	
TOS(DS field)	0

MPEG4	
TOS(DS field)	0



Common

TTL (Unicast)	64
TTL (Multicast)	32
MTU	1500
Negotiation	Auto

Protocol

HTTP Server Port	80

Streaming

JPEG	
Status	--------
Address	225.0.1.1
Port	49152
Frame Rate	15

MPEG4	
Status	--------
Address	225.0.2.1
Port	59152

Access Restriction

Access Restriction	deny	
IP Address		

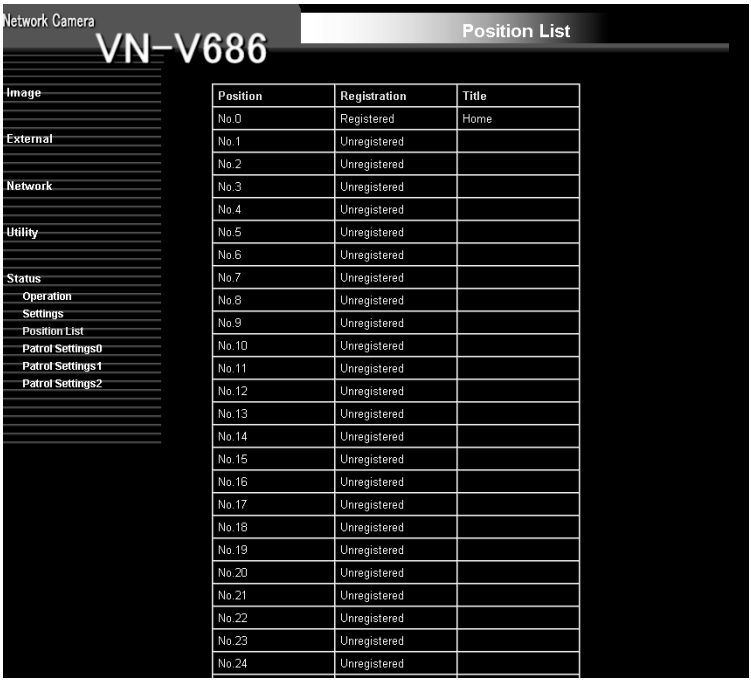
Time

SNTP	SNTP: Off NTP Server: 192.168.0.1 Access Interval: 1 hour
Time / Time Zone	Time: 2007 / 12 / 03 - 16 : 43 : 23 (Y/M/D-h:m:s) Time Zone: (GMT+9:00) Japan

Position List Page

This page displays information on preset positions.

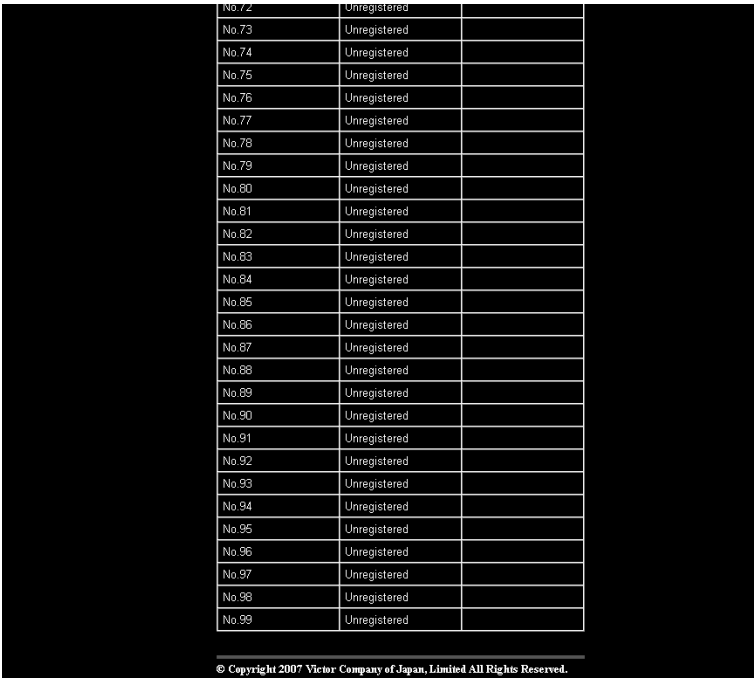
This page can be used during access using “admin” or “operator”.



Position	Registration	Title
No.0	Registered	Home
No.1	Unregistered	
No.2	Unregistered	
No.3	Unregistered	
No.4	Unregistered	
No.5	Unregistered	
No.6	Unregistered	
No.7	Unregistered	
No.8	Unregistered	
No.9	Unregistered	
No.10	Unregistered	
No.11	Unregistered	
No.12	Unregistered	
No.13	Unregistered	
No.14	Unregistered	
No.15	Unregistered	
No.16	Unregistered	
No.17	Unregistered	
No.18	Unregistered	
No.19	Unregistered	
No.20	Unregistered	
No.21	Unregistered	
No.22	Unregistered	
No.23	Unregistered	
No.24	Unregistered	

Setting (continued)

Position List Page (continued)

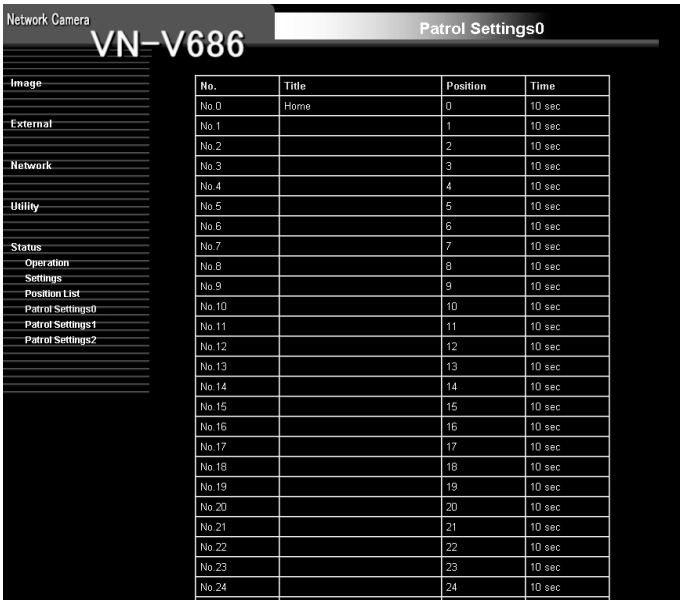


No.72	Unregistered	
No.73	Unregistered	
No.74	Unregistered	
No.75	Unregistered	
No.76	Unregistered	
No.77	Unregistered	
No.78	Unregistered	
No.79	Unregistered	
No.80	Unregistered	
No.81	Unregistered	
No.82	Unregistered	
No.83	Unregistered	
No.84	Unregistered	
No.85	Unregistered	
No.86	Unregistered	
No.87	Unregistered	
No.88	Unregistered	
No.89	Unregistered	
No.90	Unregistered	
No.91	Unregistered	
No.92	Unregistered	
No.93	Unregistered	
No.94	Unregistered	
No.95	Unregistered	
No.96	Unregistered	
No.97	Unregistered	
No.98	Unregistered	
No.99	Unregistered	

Patrol Settings Page

This page displays the information and settings of Auto Patrol.

This page can be used during access using “admin” or “operator”.

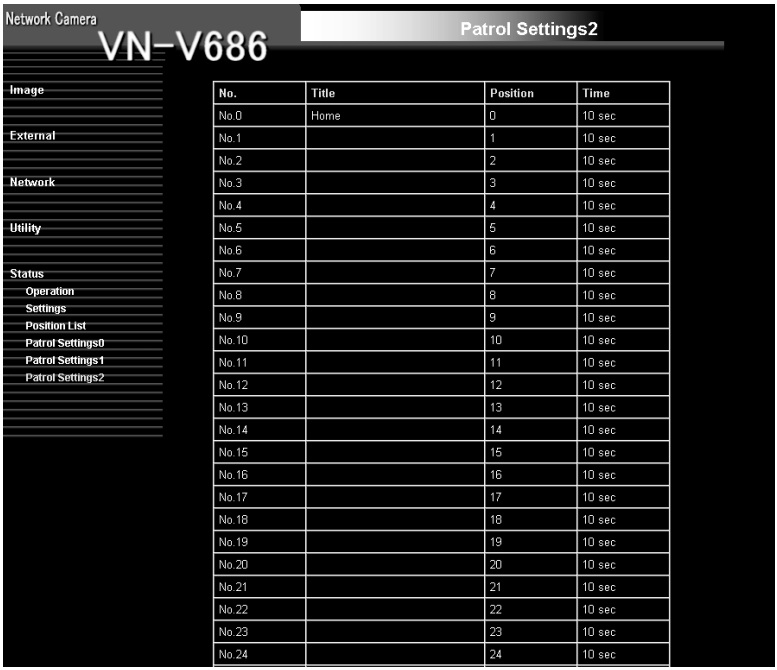


No.	Title	Position	Time
No.0	Home	0	10 sec
No.1		1	10 sec
No.2		2	10 sec
No.3		3	10 sec
No.4		4	10 sec
No.5		5	10 sec
No.6		6	10 sec
No.7		7	10 sec
No.8		8	10 sec
No.9		9	10 sec
No.10		10	10 sec
No.11		11	10 sec
No.12		12	10 sec
No.13		13	10 sec
No.14		14	10 sec
No.15		15	10 sec
No.16		16	10 sec
No.17		17	10 sec
No.18		18	10 sec
No.19		19	10 sec
No.20		20	10 sec
No.21		21	10 sec
No.22		22	10 sec
No.23		23	10 sec
No.24		24	10 sec

No.	Title	Position	Time
No.0	Home	0	10 sec
No.1		1	10 sec
No.2		2	10 sec
No.3		3	10 sec
No.4		4	10 sec
No.5		5	10 sec
No.6		6	10 sec
No.7		7	10 sec
No.8		8	10 sec
No.9		9	10 sec
No.10		10	10 sec
No.11		11	10 sec
No.12		12	10 sec
No.13		13	10 sec
No.14		14	10 sec
No.15		15	10 sec
No.16		16	10 sec
No.17		17	10 sec
No.18		18	10 sec
No.19		19	10 sec
No.20		20	10 sec
No.21		21	10 sec
No.22		22	10 sec
No.23		23	10 sec
No.24		24	10 sec

Setting (continued)

Patrol Settings Page (continued)



No.	Title	Position	Time
No.0	Home	0	10 sec
No.1		1	10 sec
No.2		2	10 sec
No.3		3	10 sec
No.4		4	10 sec
No.5		5	10 sec
No.6		6	10 sec
No.7		7	10 sec
No.8		8	10 sec
No.9		9	10 sec
No.10		10	10 sec
No.11		11	10 sec
No.12		12	10 sec
No.13		13	10 sec
No.14		14	10 sec
No.15		15	10 sec
No.16		16	10 sec
No.17		17	10 sec
No.18		18	10 sec
No.19		19	10 sec
No.20		20	10 sec
No.21		21	10 sec
No.22		22	10 sec
No.23		23	10 sec
No.24		24	10 sec

Built-in Viewer

This product comes with a JPEG Viewer and an MPEG4 Viewer. Each of these viewers functions separately.

■ Using the JPEG Viewer enables display of a series of still images as well as saving of still images.

■ Using the MPEG4 Viewer enables display of MPEG4-encoded motion images.

When the display or configuration of the opened screen appears strange, check the computer settings using the following procedures.

① Click [Start]−[Control Panel]−[Display] and open the [Display Properties] window
② Click the [Settings] tab in the [Display Properties] window and click the [Advanced] button
③ Check that [DPI setting] in the [General] tab has become [Normal size(96DPI)]
④ Otherwise, change the setting to [Normal size(96DPI)] and reboot Windows

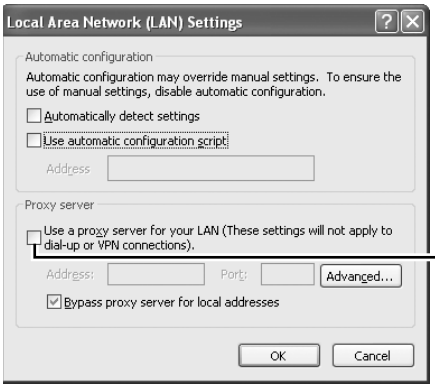
Preparation

Internet Explorer Setup

1 Launch the Internet Explorer on the computer

2 When proxy settings are enabled in the Internet Explorer, follow the steps below to disable the proxy of the Internet Explorer

- Select in the order of [Tool]–[Internet Options]–[Connections]–[LAN Setting], followed by deselecting the check for "Use a proxy server for your LAN" in [Proxy Server] of the [Local Area Network (LAN) Settings] window.



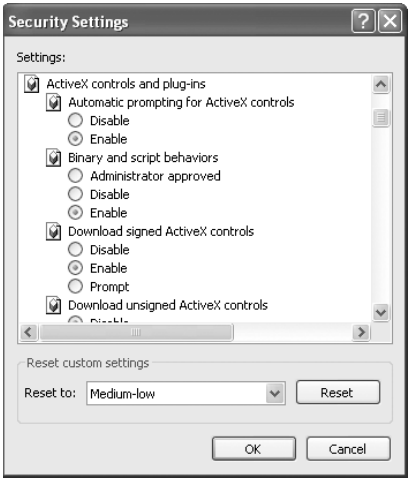
Deselect the check

3 If ActiveX controls and plug-ins of the Internet Explorer is disabled, follow the steps below to enable it

- Click [Trusted sites] under [Tool]–[Internet Options]–[Security]. Upon doing so, the [Sites…] button directly below becomes active. Click this button and deselect the check [in the displayed window]. Next, add the IP address of VN-V686WPU. If the setting is factory default, add the following web site to the zone.

  http://192.168.0.2

- Click [Trusted sites] under [Tool]–[Internet Options]–[Security]. Select the [Custom Level] button and open the [Security Settings] window. Set all items under [ActiveX controls and plug-ins] in the opened window to [Enable]. Enable also [Use the following IP address] under [Miscellaneous].



4 If the pop-up block function of the Internet Explorer is enabled, follow the steps below to disable it

※Built-in Viewer cannot be used when the pop-up block function is "enabled".

- Selecting [Tool]–[Pop-up Blocker]–[Turn Off Pop-up Blocker] permits all sites.
- To permit only specific sites for VN-V686WPU, select [Tool]–[Pop-up Blocker]–[Turn On Pop-up Blocker]. Select the selectable [Tool]–[Pop-up Blocker]–[Pop-up Blocker Settings] and open the [Pop-up Blocker Settings] window. In the opened window, add the address of VN-V686WPU as a permitted web site address.

5 When plug-in tools such as the Yahoo or Google toolbar are included in the Internet Explorer, disable the pop-up block function of these plug-in tools as well

Memo:

- To use Built-in MPEG4 Viewer of VN-V686WPU, install "ffdshow" that is open source codec. You can download "ffdshow" from the Internet.

Preparation (continued)

Installing Built-in Viewer

1 Enter the URL of Built-in Viewer in the address field of Internet Explorer

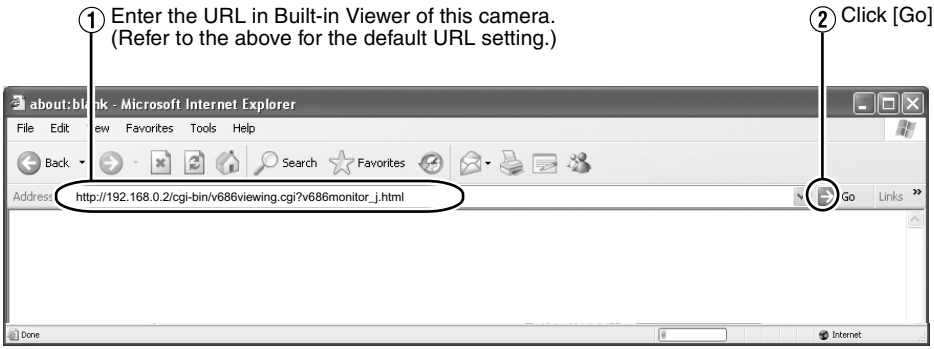
For example, if the IP address of VN-V686WPU is 192.168.0.2, enter as follows:

■JPEG Viewer

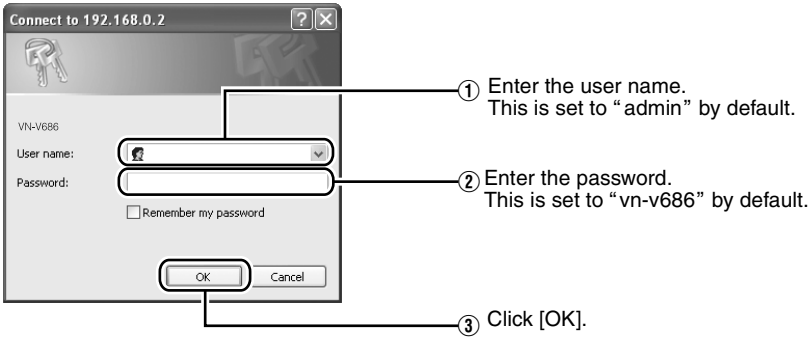
http://192.168.0.2/cgi-bin/v686viewing.cgi?v686monitor_j.html

■MPEG4 Viewer

http://192.168.0.2/cgi-bin/v686viewing.cgi?v686monitor_m.html



2 Enter the user name and password



3 The viewer is installed and launched

JPEG Viewer

Screen Configuration of JPEG Viewer

- When the JPEG Viewer is first installed, it is set to play back at 15 fps by default.

① **DisplaySize**	Switches the display size. (VGA or QVGA) **Note:** ● When the VGA JPEG is reduced to QVGA and when QVGA JPEG is enlarged to VGA, the load on the computer will increase.
② **Capture**	Captures the currently displayed image on the computer. Images captured will be stored as a JPEG file in the folder created under [My Document] of the computer. The default folder name is “VN-V686”. The file name is made up of the year, month, day, hour, minute, second, and millisecond. The time denoted by the file name is based on the time at the computer and not the internal clock of VN-V686WPU. Motion images cannot be captured.
③ **Pause**	Pauses/Resumes playback of images.

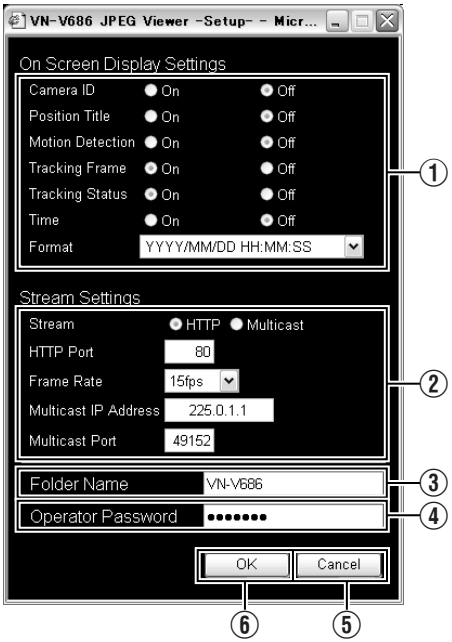
JPEG Viewer (continued)

Exiting the JPEG Viewer (continued)

④ **PTZ**	Open the [PTZ Controller] screen. Manual operations are available. Configure settings of preset position registration and Auto Pan/Auto Trace in the [PTZ Controller] screen. (☞ Page 106) **Note:** ● When the PTZ Controller screen is first opened in the computer, ActiveX will be installed.
⑤ **Setup**	Displays Built-in Viewer settings window. This setting screen is used to set Built-in Viewer as a software on the computer. **Note:** ● Settings on this setting screen do not affect settings of the VN-V686WPU unit.

JPEG Viewer Configuration

The viewer setting window appears upon clicking the [Setup] button of Built-in Viewer.



① **On Screen Display Settings**	For setting display items on the viewer screen. For the JPEG Viewer, characters are displayed as overlay on the video image.
Camera ID	Select "On" to display [Camera ID]. (Up to 16 alphanumeric characters will be displayed.) [Camera ID] can be specified on the Camera page of VN-V686WPU. (☞ Page 38)
PositionTitle	Select "On" to display the title of the position that is being displayed.
Motion Detection	Selecting "On" displays the area in which motion is detected in red.
Tracking Frame	Select "On" to display blue frame around the tracking target of Intelligent Tracking on the screen. (☞ Page 111)
Tracking Status	Select "On" to display the Intelligent Tracking status as "Standby", "Locked" or "Losing" on the screen. (☞ Page 111)
Time	Select "On" to display the time. This indicates the time that is stored in the JPEG data.
Format	Select the format for displaying time. YYYY, MM, and DD denote year, month and day respectively, while HH, MM, and SS denote hour, minute and second respectively. mm is equivalent to 1/100 seconds.
② **Stream Settings**	For specifying settings for receiving JPEG stream.
Stream	For selecting the protocol when the viewer acquires data from VN-V686WPU. When "HTTP" is selected, lost packets are recovered via resending. VN-V686WPU may be monitored using multiple viewers when "Multicast" is selected. **Memo:** ● When playing back via multicast, start multicast sending on the Streaming page of the VN-V686WPU unit. [Streaming Page] (☞ Page 70) **Note:** ● When Built-in Viewer is launched with "Multicast" specified, a Windows firewall warning may appear. In this case, select "unblock" and proceed. ● If "block" is selected, the Windows firewall will block the multicast stream and playback of multicast by the viewer will fail.
HTTP Port	You can change the HTTP port number. The default port number setting is "80". Specify the same value as the parameter that is set on the Protocol page of VN-V686WPU. (☞ Page 69)
Frame Rate	For selecting the acquisition frame rate of the viewer. Selecting a large frame rate will increase the processing load of the computer on which the viewer is running. **Note:** ● Set to a rate such that the CPU burden of the computer does not exceed 80 %. When the CPU is overloaded, the computer may not function properly.

JPEG Viewer (continued)

JPEG Viewer Configuration (continued)

②Stream Settings (continued)		
	Multicast IP Address	You can change the multicast IP address. The default IP address setting is "225.0.1.1".
	Multicast Port	You can change the multicast port number. The default port number setting is "49152". **Memo:** ● This is enabled when "Start" is selected for the [JPEG Control] item on the [Streaming] page. ● Specify the same value as the parameter that is set on the [Streaming] page of VN-V686WPU. (☞ Page 71)
③ **Folder Name**		For specifying the name of the folder in which the captured files are stored. (When the viewer is installed: VN-V686)
④ **Operator Password**		Operator password is required to control VN-V686WPU and to get preset position title from VN-V686WPU. To use PTZ Controller or to display preset position title, enter operator password. When the operator password has been entered under other settings, it will be displayed as ●●●●●. (☞ Page 34 [Enter user name and password])
⑤ **Cancel**		Cancels the changed settings and closes the setting screen.
⑥ **OK**		Saves the changed settings. Click the [OK] button to enable the new settings and restart Built-in viewer after closing the setting window.

Memo:

- The settings of Built-in Viewer are stored in the file named Cookie.

This setting screen is used to set Built-in Viewer as a software on the computer, and does not apply to settings of the VN-V686WPU unit.
When settings are changed, press the [OK] button to exit and restart the viewer.

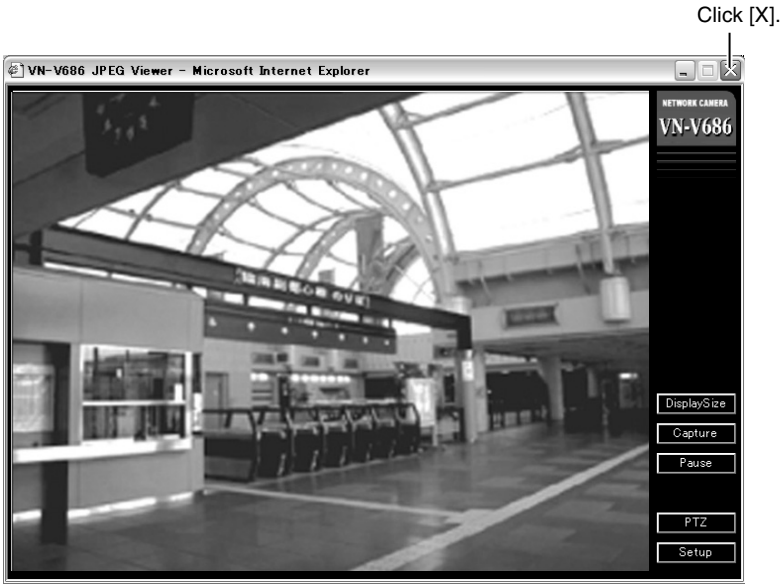
Memo:

Searching and deleting cookie files

- Open [Tool]–[Internet Options]–[Advanced] of the Internet Explorer, and press the [Settings] button under [Temporary Internet Files]. A new [Settings] will appear. Press the [View Files] button in this window. The [Temporary Internet Files] window opens up and a list of files will be displayed. The file named "cgi-bin" in this list is the Cookie for Built-in Viewer.
- Deleting this file deletes the view settings, and the viewer will be initialized during the next startup.

Exiting the JPEG Viewer

To exit, press the [close] [X] button at the top right of the window.



- During the next startup of Built-in Viewer, launch the Internet Explorer and enter the URL of Built-in Viewer in the address field.
  For example, if the IP address of VN-V686WPU is 192.168.0.2, enter as follows:

  http://192.168.0.2/cgi-bin/v686viewing.cgi?v686monitor_j.html

  - After the [Security Settings] screen appears, press the [OK] button to proceed.

MPEG4 Viewer

Screen Configuration of MPEG4 Viewer

① **DisplaySize**	Switches the display size. (VGA or QVGA) **Note:** ● When the VGA JPEG is reduced to QVGA and when QVGA JPEG is enlarged to VGA, the load on the computer will increase.
② **Pause**	Pauses/Resumes playback of motion images.
③ **PTZ**	Open the [PTZ Controller] screen. Manual operations are available. Configure settings of preset position registration and Auto Pan/Auto Trace in the [PTZ Controller] screen. (☞ Page 106) **Note:** ● When the PTZ Controller screen is first opened in the computer, ActiveX will be installed.

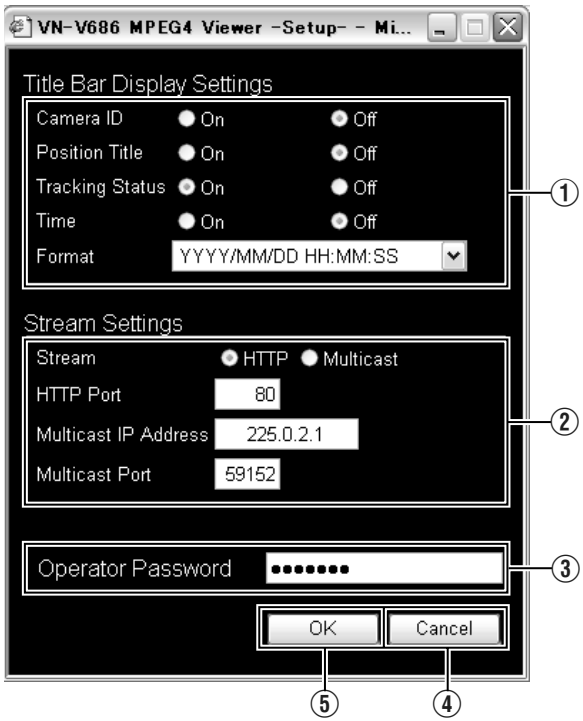
④ **Setup**	Displays Built-in Viewer settings window. This setting screen is used to set Built-in Viewer as a software on the computer. **Note:** ● Settings on this setting screen do not affect settings of the VN-V686WPU unit.

Memo:

- To use Built-in MPEG4 Viewer of VN-V686WPU, install “ffdshow” that is open source codec. You can download “ffdshow” from the Internet.

MPEG4 Viewer Configuration

The MPEG4 Viewer’s settings window appears upon clicking the [Setup] button of the viewer.



MPEG4 Viewer (continued)

MPEG4 Viewer Configuration (continued)

① **Title Bar Display Settings**		For setting display items on the viewer screen. For the MPEG4 Viewer, characters are displayed in the title bar of the window.
	Camera ID	Select "On" to display [Camera ID]. (Up to 16 alphanumeric characters will be displayed.) [Camera ID] can be specified on the [Camera] page of VN-V686WPU. (☞ Page 38)
	PositionTitle	Select "On" to display the title of the position that is being displayed.
	Tracking Status	Select "On" to display the Intelligent Tracking status as "Standby", "Locked" or "Losing" on the title bar. (☞ Page 111)
	Time	Select "On" to display the time.
	Format	Select the format for displaying time. YYYY, MM, and DD denote year, month and day respectively, while HH, MM, and SS denote hour, minute and second respectively. mm is equivalent to 1/100 seconds.
② **Stream Settings**		For specifying settings for receiving MPEG4 stream.
	Stream	For selecting the protocol when the viewer acquires data from VN-V686WPU. When "HTTP" is selected, lost packets are recovered via resending. VN-V686WPU may be monitored using multiple viewers when "Multicast" is selected. **Memo:** ● When playing back via multicast, start multicast sending on the Streaming page of the VN-V686WPU unit. [Streaming Page] (☞ Page 70) **Note:** ● When Built-in Viewer is launched with "Multicast" specified, a Windows firewall warning may appear. In this case, select "unblock" and proceed. ● If "block" is selected, the Windows firewall will block the multicast stream and playback of multicast by the viewer will fail.
	HTTP Port	You can change the HTTP port number. The default port number setting is 80. Specify the same value as the parameter that is set on the Protocol page of VN-V686WPU. (☞ Page 69)
	Multicast IP Address	You can change the multicast IP address. The default address is 225.0.2.1.

② **Stream Settings (continued)**	
Multicast Port	You can change the multicast port number. The default port number setting is 59152. **Memo:** ● This is enabled when "Start" is selected for the [JPEG Control] item on the [Streaming] page. ● Specify the same value as the parameter that is set on the [Streaming] page of VN-V686WPU. (☞ Page 71)
③ **Operator Password**	Operator password is required to control VN-V686WPU and to get preset position title from VN-V686WPU. To use PTZ Controller or to display preset position title, enter operator password. [Enter user name and password] (☞ Page 34) When the operator password has been entered under other settings, it will be displayed as ●●●●●●.
④ **Cancel**	Cancels the changed settings and closes the setting screen.
⑤ **OK**	Saves the changed settings. Click the [OK] button to enable the new settings and restart Built-in viewer after closing the setting window.

Memo:

- To use Built-in MPEG4 Viewer of VN-V686WPU, install "ffdshow" that is open source codec. You can download "ffdshow" from the Internet.
- The settings of Built-in Viewer are stored in the file named Cookie.

This setting screen is used to set Built-in Viewer as a software on the computer, and does not apply to settings of the VN-V686WPU unit.
When settings are changed, press the [OK] button to exit and restart the viewer.

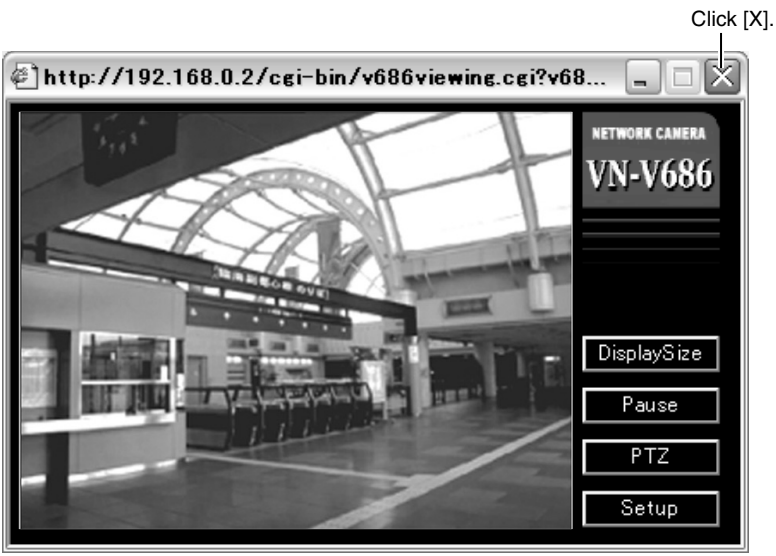
■ Searching and deleting cookie files

- Open [Tool]–[Internet Options]–[Advanced] of the Internet Explorer, and press the [Settings] button under [Temporary Internet Files]. A new [Settings] will appear. Press the [View Files] button in this window. The [Temporary Internet Files] window opens up and a list of files will be displayed. The file named "cgi-bin" in this list is the Cookie for Built-in Viewer.
- Deleting this file deletes the view settings, and the viewer will be initialized during the next startup.

MPEG4 Viewer (continued)

Exiting the MPEG4 Viewer

To exit, press the [close] [X] button at the top right of the window.



- During the next startup of Built-in Viewer, launch the Internet Explorer and enter the URL of Built-in Viewer in the address field.
  For example, if the IP address of VN-V686WPU is 192.168.0.2, enter as follows:

  http://192.168.0.2/cgi-bin/v686viewing.cgi?v686monitor_m.html

  - After the [Security Settings] screen appears, press the [OK] button to proceed.

Shortcut for Built-in Viewer

Creating a shortcut for Built-in Viewer on the Desktop screen of the computer saves you the trouble of having to enter the URL in the Internet Explorer.
Create the shortcut by following the procedure below.

1 Launch the Internet Explorer

2 Right-click at an arbitrary point on the Internet Explorer screen and select [Create Shortcut]

Click the [OK] button on the confirmation screen and a shortcut will be created on the Desktop screen.

3 Right-click on the shortcut icon on the Desktop screen and select Properties

The setting screen appears.

4 Enter the URL of Built-in Viewer in the URL field

For example, if the IP address of VN-V686WPU is 192.168.0.2, enter as follows:

■JPEG Viewer

http://192.168.0.2/cgi-bin/v686viewing.cgi?v686monitor_j.html

■MPEG4 Viewer

http://192.168.0.2/cgi-bin/v686viewing.cgi?v686monitor_m.html

5 Click the [OK] button to end

Clicking on the shortcut created saves you the trouble of having to enter the URL in the Internet Explorer.

Memo:

- Before starting up Built-in Viewer using the shortcut, close all Internet Explorer windows. Starting up Built-in Viewer using the shortcut while leaving other Internet Explorer windows opened may result in malfunction of Built-in Viewer.

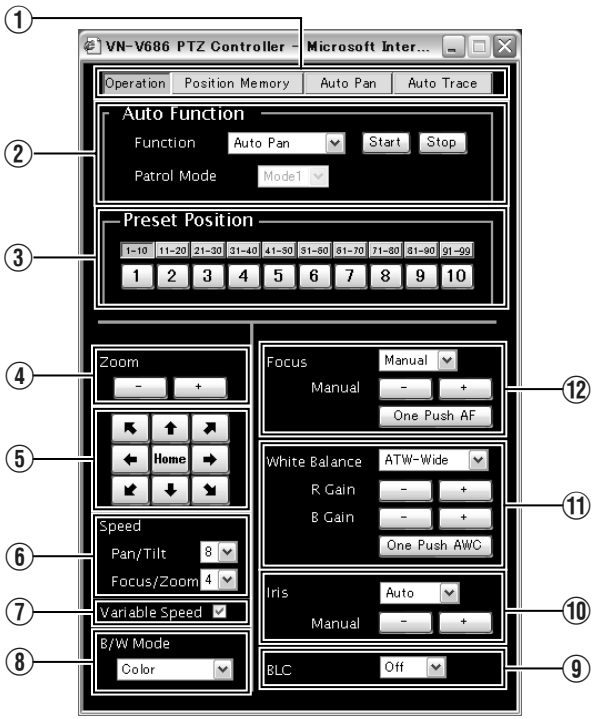
PTZ Controller Operation

Operation

The [PTZ Controller] window appears upon clicking the [PTZ] button of Built-in Viewer. Configure settings for the camera manual operation, preset position registration and Auto Pan/Auto Trace operation in the [PTZ Controller] screen.

Note:

- Before using PTZ Controller, enter operator password to setup window of Built-in Viewer.
- When the PTZ Controller screen is first opened in the computer, ActiveX will be installed.



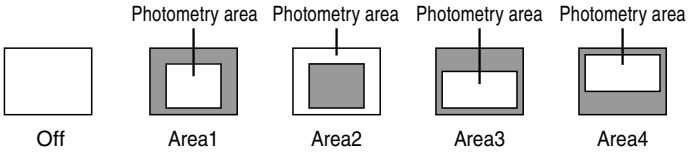
① **Setting screen tab**	This opens each screen in separate windows. ● Operation(☞ Page 106) ● Position Memory(☞ Page 112) ● Auto Pan(☞ Page 113) ● Auto Trace(☞ Page 115)

② **Auto Function**		
	Function	For selecting the operation. Click [Start] to start the selected Auto function. Click [Stop] to stop the running Auto function. A list of patrol modes appears when "Auto Patrol" is selected. A list of targets appears when "Intelligent Tracking" is selected. Auto Pan : The configured Auto Pan operation is performed. (☞ Page 113) Auto Patrol : The configured Auto Patrol operation is executed. Select [Patrol Mode]. (☞ Page 60) Auto Trace : The configured Auto Trace operation is performed. (☞ Page 115) Auto Tracking : Auto Tracking is performed. (☞ Page 55) During Auto Tracking, Motion Detection deos not work. (☞ Page 64) Intelligent Tracking : Intelligent Tracking is performed. (☞ Page 111) **Note:** ● When the [Mode] item of [Auto Return] is set to "Auto Patrol" and Auto Patrol starts in this screen, the "Auto Patrol" mode of [Auto Return] will be changed to the mode that was started at this screen. [Auto Return] (☞ Page 54) ● When Auto Pan starts, the camera will repeat the left rotate, right rotate or return operations. When Auto Patrol starts, the camera will complete a series of operations and return to the start position, and then repeat the entire process. When Auto Trace starts, the camera will perform a series of operations before returning to the start position. It will resume after 30 seconds. If Auto Return function is set, Auto function that was started manually is stopped when Auto Return starts.
	Patrol Mode	For selecting the mode of the [Auto Patrol] function. This feature can only be configured when [Function] is set to "Auto Patrol".
	Target	For setting the target of the "Intelligent Tracking" operation. Indoor :This setting is suitable for indoor targets. Outdoor1(cloudy):This setting is suitable for outdoor targets when the contrast is not too strong, such as on a cloudy day. Outdoor2(sunny) :This setting is suitable for outdoor targets when the contrast is strong, such as on a sunny day.
③ **Preset Position**		For selecting the preset position. When the selected position has been registered, the camera will move to the selected position. (☞ Page 112) Use the upper button to set positions in the tens and use the lower button to set positions in the ones. **E.g.) To select Position Number 35** Click upper [31-40] and click lower [5] **E.g.) To select Position Number 50** Click upper [41-50] and click lower [10] **Memo:** ● When the upper [91-99] is selected, the lower [10] cannot be selected.

PTZ Controller Operation (continued)

Operation (continued)

④ **Zoom**	This item sets the zoom operation of the lens when clicking the button. + : Zoom is set to TELE and the object becomes bigger. - : Zoom is set to WIDE and the object becomes smaller. **Memo:** ● When electronic zoom is set to other than Off, the camera will stop temporarily when switching from optical zoom to electronic zoom and vice versa, even though the [+] or [-] button of [Zoom] is pressed continuously. To continue zooming, press the [+] or [-] button of [Zoom] again.
⑤ **Pan/Tilt manual operation button, [Home] button**	Click the arrow button to move the camera in that direction. Release the button to stop the movement. Click the [Home] button to move to the home position. **Memo:** Operation when [Home] button is clicked ● When in the Auto Tracking mode, Auto Tracking continues after returning to the home position. ● If the [Mode] item under [Auto Return] is set to " Auto Tracking", Auto Tracking starts upon returning to the home position. (☞ Page 54)
⑥ **Speed**	This item sets the operation speed.
Pan/Tilt	This item sets the operation speed of the Pan/Tilt manual operation button ⑤. Increase the number to increase the operation speed. **[Setting range:1 to 8]**
Focus/Zoom	This item sets the operation speed of the [Zoom] operation button ④ and the [Focus] operation button ⑫. Increase the number to increase the operation speed. **[Setting range : 1 to 4]**
⑦ **Variable Speed**	This function adjusts the Pan/Tilt operation speed by the zoom ratio. Select the checkbox to slow down at Tele and to move quickly at Wide. Deselect the checkbox to always move the camera at the speed configured under the [Speed] item ⑥ of Pan/Tilt regardless of the zoom ratio.

⑧ **B/W Mode**	This sets the function to switch from Color to B&W mode. Color : Always be in Color mode. Black & White : Always be in B&W mode. Auto Low,Auto Mid,Auto High : This item automatically switches between Color Mode and B&W Mode when the luminance meets defined conditions over 30 seconds. Select the sensitivity from three options. **Memo:** **To ensure a successful B&W/Color switching** ● If the [B/W Mode] item is set to " Auto Low, Auto Mid, Auto High", the B&W/ Color setting can be switched according to the brightness of the object, but the condition of illumination and field angle may make this impossible. To be absolutely certain of B&W/Color switching, connecting external sensor to alarm input cable of this camera and setting alarm action of B&W mode is recommended.
⑨ **BLC**	For selecting the backlight compensation feature. Set this feature when there is a bright light source in the same direction as the object. Enables unwanted light sources to be excluded from the photometry area. Off : No backlight compensation. Area1 to Area4 : For selecting a photometry area from the four available types. **[Setting values : Off, Area1, Area2, Area3, Area4]** 
⑩ **Iris**	This item sets the iris. When " Auto-1, Auto, Auto+1" is selected, the iris is adjusted automatically. You can also click the [+], [-] buttons under [Manual] to adjust. In this case, the iris will change while the button is being pressed. It will stop when the button is released.
⑪ **White Balance**	For selecting the white balance control feature. White balance can be adjusted for a light source with a color temperature range of 2,300K to 10,000K. ATW-Wide : Switches to the Auto-Tracking White Balance (automatic color temperature tracking) mode. The camera adjusts the white balance automatically according to the color temperature of the illumination. (Color temperature range of 2,300K to 10,000K) ATW-Narrow : This mode supports an even narrower range of color temperature than " ATW-Wide". The camera adjusts the white balance automatically according to the color temperature of the illumination. (Color temperature range of 3,200K to 8,000K) AWC : Switches to the Auto-White Balance Control mode. In the " AWC" mode, values entered for the [R Gain] and [B GAIN] items are applied to white balance.

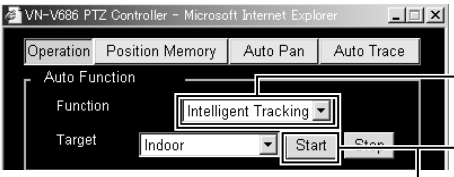
PTZ Controller Operation (continued)

Operation (continued)

<table>
<tr><td colspan="2">⑪ White Balance (continued)</td></tr>
<tr><td>R Gain</td><td>Adjusts the R (red) hue during AWC.
+ : Increases the redness or red level.
- : Decreases the redness or red level.
[Setting values : 0 to 255]
Memo:
● Click the button once to change to the next value. To change the value continuously, click repeatedly. The value will not change if the button remains pressed down.</td></tr>
<tr><td>B GAIN</td><td>Adjusts the B (blue) hue during AWC.
+ : Increases the blueness or blue level.
- : Decreases the blueness or blue level.
[Setting values : 0 to 255]
Memo:
● Click the button once to change to the next value. To change the value continuously, click repeatedly. The value will not change if the button remains pressed down.</td></tr>
<tr><td>One Push AWC</td><td>Executes AWC (automatic white balance control).
Execute by placing a white object around the center of the screen in a location with a lighting condition that is similar to the object to be shot.
Memo:
● Pressing the [One Push AWC] button replaces the [R Gain] and [B GAIN] values with the values of the AWC execution results.
● Even when [White Balance] is set to “ATW-Narrow”, “ATW-Wide”, pressing the [One Push AWC] button switches the mode automatically to AWC.</td></tr>
<tr><td colspan="2">⑫ Focus</td><td>This item adjusts the focus.
Easy AF : Auto Focus (AF) will activate automatically when the pan, tilt or zoom function is operated manually. This is convenient as you need not reset the focus everytime you move the camera when there are many manual operations.
Manual : Click the [+], [-] buttons to adjust manually. The focus will change while the button is being pressed. It will stop when the button is released.
Memo:
● The “Easy AF” function may not focus properly for some objects. In this case, set the focus manually.</td></tr>
<tr><td>One Push AF</td><td>Click the [One Push AF] button to focus automatically in 1 second.</td></tr>
</table>

Intelligent Tracking (Manual Mode)

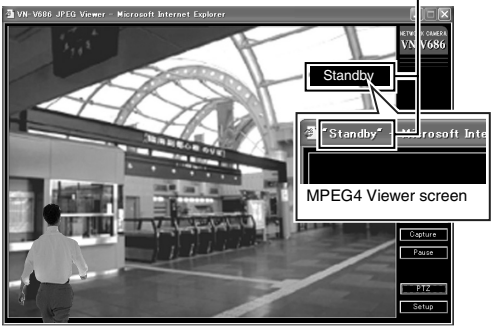
This function allows you to track and shoot the color information of an object, which was selected by clicking on the viewer screen.



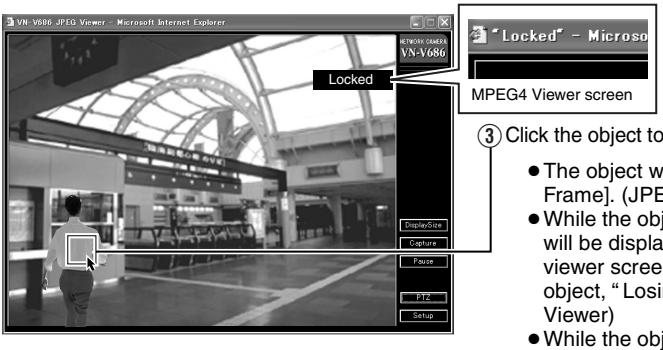
① Select [Intelligent Tracking].

② Click [Start]

- The camera will go into Standby mode and "Standby" will be displayed on the top right of the viewer screen.(JPEG Viewer)
- The camera will go into Standby mode and "Standby" will be displayed on the title bar.(MPEG4 Viewer)



JPEG Viewer screen



③ Click the object to be tracked on the viewer screen.

- The object will be framed in blue [Tracking Frame]. (JPEG Viewer only)
- While the object is being captured, "Locked" will be displayed on the top right of the viewer screen. When the camera loses the object, "Losing" will be displayed. (JPEG Viewer)
- While the object is being captured, "Locked" will be displayed on the title bar. When the camera loses the object, "Losing" will be displayed. (MPEG4 Viewer)

Memo:

- You can change the tracking target any time by clicking the object while "Locked" or "Losing" is displayed.
- You can select whether to display [Tracking Frame] (JPEG Viewer only) or [Tracking Status] on the setting screen. (☞ Page 97)(☞ Page 102)

Note:

- When the PC OS is Windows XP, click the viewer screen once to activate. Then click the object to be tracked.

PTZ Controller Operation (continued)

Registering Preset Positions

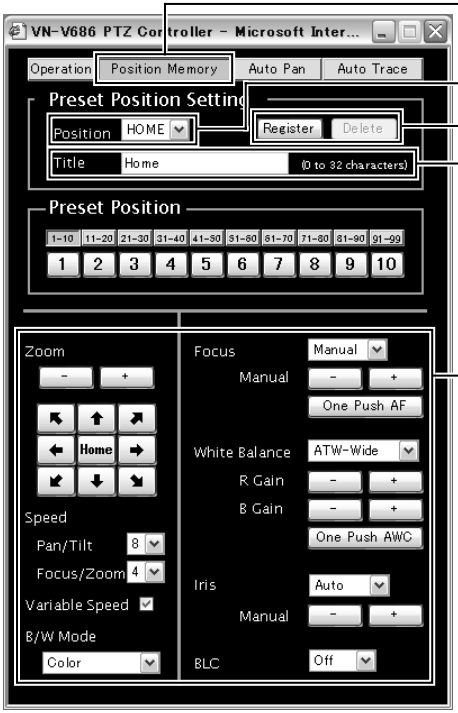
The [PTZ Controller] window appears upon clicking the [PTZ] button.
Click the [Position Memory] tab of the [PTZ Controller] screen and register the preset positions in the [Position Memory] screen.

Note:

- When [Auto Flip] is set to "Digital Flip", preset positions cannot be registered when the tilt angle is more than 90 degrees. [Auto Flip] (☞ Page 59)

Memo:

- When setting preset positions and [Pan Limit] is "On", pan operation is unavailable in the prohibited areas. [Pan Limit] (☞ Page 57)
- As moving preset positions has priority over pan limit, set the preset positions when [Pan Limit] is "Off". After that, when [Pan Limit] is set to "On", the camera will pan regardless of the prohibited areas. [Pan Limit] (☞ Page 57)
- Items stored in the preset position are pan, tilt, zoom, focus, position title, white balance, iris and backlight compensation.



(1) Click the [Position Memory] tab to display the [Position Memory] screen.

(2) Select [Position].
[Setting values : HOME, 0 to 99]

(3) The current title appears.
Enter here to register or change the title.
(Up to 32 alphanumeric characters can be entered.When Built-in JPEG Viewer is used, up to 16 alphanumeric characters are displayed.)

(4) Operate the camera and adjust the angle and image quality of the position to be registered.

Memo:

- For details on the adjustment method, see [Operation] (☞ Page 106).

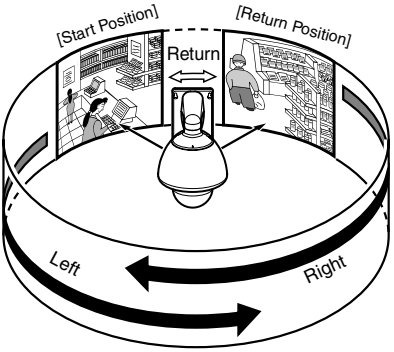
(5) Click [Register] to complete registering the position.

Memo:

- Click [Delete] to delete information of the selected position. However, [HOME] cannot be deleted.
- The default home positions are Pan 1.00 degrees, Tilt 45 degrees, and Zoom 1x.

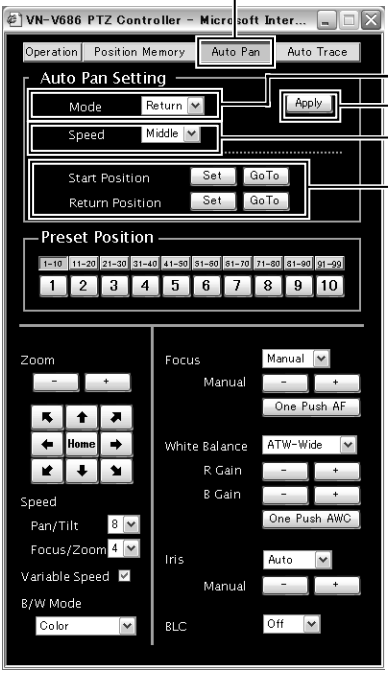
Auto Pan Setting

This item sets the Auto Pan operation which moves at a certain speed from the configured [Start Position].
Click the [Auto Pan] tab on the [PTZ Controller] screen and configure settings at the [Auto Pan] setting screen.



PTZ Controller Operation (continued)

Auto Pan Setting (continued)



(1) Click the [Auto Pan] tab to display the [Auto Pan] screen.

(2) Select the [Mode] of the Auto Pan operation.

Right : This rotates the camera horizontally in the right direction from the [Start Position].

Left : This rotates the camera horizontally in the left direction from the [Start Position].

Return: Moves toward the [Return Position] from the [Start Position] in a clockwise direction, and moves to and fro between the [Start Position] and [Return Position].
Unless the restrictions below are applicable, you can specify any position as the Start Position and Return Position.

- When tilt angle is 90 degrees or higher:
  An error message appears when the tilt angle is set to 90 degrees or higher.
- Electronic zoom area:
  When electronic zoom is used, the maximum optical zoom ratio is specified.

Memo:

- If the zoom ratios of the [Start Position] and [Return Position] are different, Zoom and Pan/Tilt movements may not be uniform.

(3) Select the Auto Pan operation speed.

[Setting values : Low, Middle, High]

(4) Select the [Start Position] and [Return Position] (only during "Return") of the operation.
Operate the camera manually, decide on a position and click [Apply] to register.
Click [Go To] to move the camera to the registered position.

Memo:

- For details on the manual operation, see [Operation] (☞ Page 106).

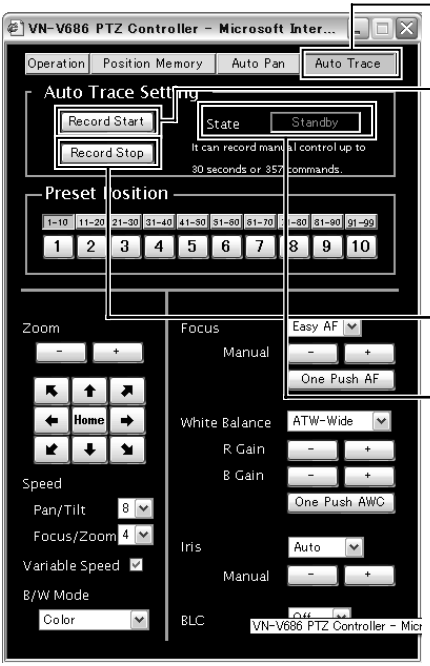
(5) Click [Apply] to complete the Auto Pan setting.

Auto Trace Setting

This item stores and reproduces manual operation.
Click the [Auto Trace] tab on the [PTZ Controller] screen and configure settings at the [Auto Trace] setting screen.

Note:

- As Auto Trace performs simple saving of manual operation, the position may be shifted during playback.
- "Digital Flip" cannot be used during Auto Trace recording. [Auto Flip] (☞ Page 59)



① Click the [Auto Trace] tab to display the [Auto Trace] screen.

② Click [Record Start].
The camera will start recording of Pan/Tilt and Zoom operations. (for approximately 30 seconds)

Memo:

- For details on the manual operation, see [Operation] (☞ Page 106).

③ When manual operations are completed, click [Record Stop].

[State] Display

The current status is displayed.

Standby : The camera is on standby. [Record Stop] is invalid.

Recording : The camera is recording. Click [Record Stop] to finish recording. "Completed" will be displayed.

Completed : Recording is completed. After "Completed" is displayed for 3 seconds, "Standby" will be displayed.

Timeout : 30 seconds has passed since recording started. (Operation for the 30 seconds has been recorded.) After "Timeout" is displayed for 3 seconds, "Standby" will be displayed.

Memory Full
: The operation has exceeded the number of recordable operations. Further recording cannot be made even if it is within 30 seconds. (Operations before the limit are recorded.) After "Memory Full" is displayed for 3 seconds, "Standby" will be displayed.

Troubleshooting

Symptom	Causes and Countermeasures	Reference Page
Video image does not appear Power does not turn on.	● Is there a problem with the power cable connecting this unit and the power unit? (If the power cable is too long or thin, the cable resistance will be high and the correct voltage may not be supplied.) ➡Use a cable of low resistance and the correct cable length. (When the camera is operating (at rated current), check that the supplied voltage is of the rated voltage at the terminal of the camera.)	☞ Page 20
	● Is the lens cap attached? ➡Remove the lens cap.	☞ Page 17
IP address of VN-V686WPU is unknown	● The default IP address is 192.168.0.2, and the default subnet mask is 255.255.255.0. ● When [IP Setting] is set to “DHCP”, this product will run using the default IP address when it is started up via a LAN in which a DHCP server does not exist. ● Search tool in attached CD-ROM is available to find VN-V686WPU from a PC in the same LAN.	☞ Page 31
The web page of VN-V686WPU cannot be displayed	Check the Internet Explorer settings. When a proxy server is in use, configure the proxy server settings of the Internet Explorer accordingly.	☞ Page 32
Built-in Viewer cannot be installed	Check the Internet Explorer settings. Built-in Viewer consists of a software component called ActiveX. The ActiveX is usually installed when Built-in Viewer is used for the first time. However, installation may be rejected depending on the Anti-virus software settings. In this case, change the settings of the Anti-virus software before installing Built-in Viewer.	☞ Page 92
Authentication by Verisign appears during installation of Built-in Viewer	Verisign’s electronic signature is stored in Built-in Viewer. For computers with a network environment that is connected to the Internet, the authenticity of the Viewer can be verified via authentication by Verisign.	—

Symptom	Causes and Countermeasures	Reference Page
Multicast images cannot be played back	● Start multicast transmission manually from the [Streaming] page of VN-V686WPU. ● In the case of multicast reception at Built-in Viewer, check that the multicast address and port number of Built-in Viewer settings coincide with those on the [Streaming] page of VN-V686WPU. Make use of a network that supports IGMP v2 for multicast transmission. ● Multicast may be blocked by the WindowsXP firewall. When this occurs, perform the following to allow it to pass through. Double-click [Windows Firewall] under [Start]–[Control Panel], click the [Add Port…] button under the Exception tab, and register the port number to be allowed through the firewall in the Port Number field. Enter an arbitrary character string in the name field.	☞ Page 70 ☞ Page 96 ☞ Page 101
The frame rate of the displayed image is low	● Check Built-in Viewer settings when a Built-in Viewer is in use. ● Frame rate will be constrained when the network bandwidth is narrow.	☞ Page 96 ☞ Page 101
A white zone appears in Built-in Viewer	For some computers, a part of the Internet Explorer graphics may not appear and is left white when the following setting is performed on the Internet Explorer. If [Right-click on the Desktop screen]–[Properties]–[Settings]–[Advanced]–[Advanced]–[DPI setting] is set to “Large size” or “Custom size”, select “Normal size(96DPI)” to resume normal drawing.	—
A warning message appears upon starting up Built-in Viewer	Built-in Viewer consists of a software component called ActiveX. The ActiveX is usually installed when Built-in Viewer is used for the first time. However, installation may be rejected depending on the Anti-virus software settings. In this case, change the settings of the Anti-virus software before installing Built-in Viewer.	—

Troubleshooting (continued)

Symptom	Causes and Countermeasures	Reference Page
TCP images cannot be played back	The maximum number of images that can be sent by VN-V686WPU via TCP is 20, and up to 20 Built-in Viewers can be connected to each VN-V686WPU unit. Make use of multicast for monitoring when the number of areas exceeds the above number. VN-V686WPU allows multicast transmission of JPEG and MPEG4 one stream at a time.	☞ Page 24
Unable to receive alarm notification using the computer via TCP/UDP	Data may be blocked by the WindowsXP firewall. When this occurs, perform the following to allow it to pass through. Double-click [Windows Firewall] under [Start]–[Control Panel], click the [Add Port…] button under the Exception tab, and register the port number to be allowed through the firewall in the Port Number field. Enter an arbitrary character string in the name field.	—
Power is turned off but it is disconnected once the camera rotates.	Are the transporting tape and cushioning material removed? ➡Remove the transporting tape and cushioning material.	☞ Page 17
Characters of the file name registered in the FTP server are garbled	When double-byte characters are to be used for the file name, make use of an FTP server for which the character code is EUC-JP.	☞ Page 51
The MPEG4 Viewer screen appears in black	When DirectX 9.x or Windows Media Player 9.x is installed on the computer, the video image screen appears in black. [Countermeasure] To use Built-in MPEG4 Viewer of VN-V686WPU, install “ffdshow” that is open source codec. You can download “ffdshow” from the Internet.	—
“Caution : The fan(※) is stopped” appears on the screen.(※ denotes number)	There is an error in the internal cooling fan or heating fan. ➡Write down the displayed text of “Caution : The fan(※) is stopped” and consult your nearest JVC dealer. Turn off the power of this camera beforehand.	—
The camera pans automatically	When [Auto Cleaning] is set to “On”, this is not an abnormality. Check the settings.	☞ Page 77

Specifications

■ Camera Head

Image pickup device
: 1/4 type, Interline Transfer CCD 768 (H) x 494 (V)

Minimum object illumination

Color : 1.0 lx (50 % output, AGC Super, WIDE edge, Monitor Type CRT, Black Level 2)
0.5 lx (25 % output, AGC Super, WIDE edge, Monitor Type CRT, Black Level 2)

During B&W : 0.08 lx (50 % output, AGC Super, WIDE edge, Monitor Type CRT, Black Level 2)
0.04 lx (25 % output, AGC Super, WIDE edge, Monitor Type CRT, Black Level 2)

White balance : Select from ATW-Narrow/ ATW-Wide/AWC

Electronic Shutter
: 1/60, 1/100, (50 Hz Flickerless), 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000

Backlight Compensation
: 4 photometry areas can be selected

Color level adjustment
: YES

Contour adjustment
: Effective for both horizontal and vertical(adjustable level)

■ Network section

Image compression format
: JPEG, MPEG4

Frame size : 640×480
320×240

Network interface
: 100BASE-TX/10BASE-T/FULL/ HALF/Auto negotiation supported

Internal memory
: 8 MB

■ LAN Specifications

Compliant with IEEE802.3 and IEEE802.3u

Communication protocol
: TCP/IP, UDP, HTTP, FTP, ICMP, ARP, DHCP, SNTP, SMTP, DSCP, IGMP

■ Lens

Zoom ratio : Approx. 36 times

Focal length : 3.43 mm to 122 mm

Maximum aperture ratio
: F1.6 (WIDE) to F4.5 (TELE)

Aperture range : F1.6 (Opened fully) to Equivalent to F360

Minimum object distance
: Approx. 1.8 m (TELE)
Approx. 0.6 m (WIDE)

■ Rotation platform

Horizontal rotation range
: 360 °Endless rotation

Horizontal rotation speed
: Approx. 0.04°/s to Approx. 400°/s

Vertical rotation range
: -5° to 185°(Horizontal to Face bottom to Horizontal)

Vertical rotation speed
: Approx. 0.04°/s to Approx. 400°/s

■ Overall

Alarm input : No-voltage a contact input, NPN open collector input, low level, latch/ momentary (200 ms and above) (Circuit current during low level: 1 mA; Applied voltage during high level: DC 3.3 V)

Alarm output : NPN open collector output (Allowable applied voltage:DC20 V; Allowable inflow current: 25 mA)

Supply voltage : AC24 V 50 Hz/60 Hz

Current consumption
: 3 A

Number of preset positions
: Up to 100

Surrounding temperature
: -40 ℃ to 50 ℃ (operation) (Always power on) ※1
0 ℃ to 40 ℃(Recommended) (When the heater power is OFF)

Ambient humidity : 20 % RH to 90 % RH (without condensation)

Anti-dust, waterproof
: IP66 (IEC60529)

Mass : Approx. 5.5 kg

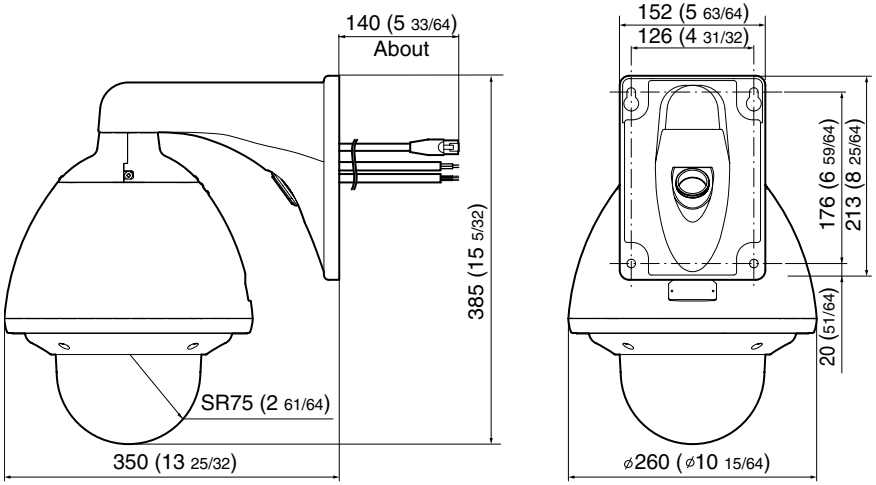
※1 :When turning power on, if the temperature is between -40℃ to -20℃, image may not appear (approximately for 2 hours) before the heater becomes effective.

Specifications (continued)

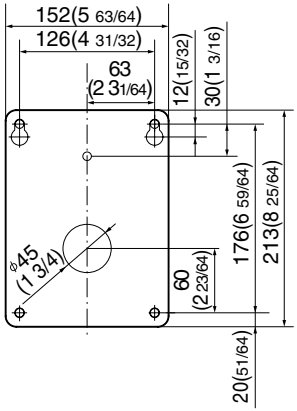
■ Accessories

:Start-up Guide 1
CD-ROM 1
Warranty Card (For USA)..... 1
Service Information Card (For USA) ... 1
RJ-45 Conversion Connector..... 1

■ Dimension [Unit: mm (inch)]



■ Wall mounting hole [Unit: mm (inch)]



※ Specifications and appearance of this unit are subject to change for further improvement without prior notice.

VN-V686WPU

OUTDOOR PTZ IP DOME CAMERA

JVC

LST0677-001C